DRAFT BIOLOGICAL ASSESSMENT

of

EXCESS FORAGE ALLOCATION AND GRAZING PERMIT RENEWAL

Jarbidge Field Office Area, BLM Idaho

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1.0 INTRODUCTION

The BLM Jarbidge Field Office (JFO) is proposing permit renewal for 7 allotments which occur in the JFO area: Cedar Butte/Devil Creek, Hallelujah, Inside Desert, Juniper Butte, Kubic, Poison Butte, and Yahoo. In general, the season of use will be modified to year-round and 28,826 AUMs of additional available forage will be authorized above current active preferences.

BLM policy (Bureau of Land Management 2001) for Federally listed species dictates that the agency will conserve listed species and the ecosystems upon which they depend; ensure that all actions authorized by BLM are in compliance with the Endangered Species Act (ESA); and cooperate with the FWS in planning and providing for the recovery of listed species. BLM shall prepare a biological assessment for those actions that may affect listed species or their habitat. BLM policy (Bureau of Land Management 2001) for Federally Proposed species states that BLM shall manage these species with the same level of protection provided for listed species and shall confer with the FWS on any action likely to adversely affect a proposed species. BLM shall also implement management plans that conserve candidate species and their habitats and shall ensure that actions authorized by BLM do not contribute to the need for listing of the species (Bureau of Land Management 2001). The Jarbidge Resource Management Plan (Bureau of Land Management 1987) further states that if a proposed action is determined through analysis to have an adverse effect on a sensitive species, the action will be foregone or redesigned to eliminate such adverse effects.

1.1 OTHER CONSULTATIONS OF FEDERAL ACTION AGENCY IN THE AREA TO DATE

Permitting requirements for the Clean Water Act have been met and appropriate water rights claims (stock water & wildlife) have been filed with the State of Idaho. Consultation in accordance with the Endangered Species Act is ongoing through a comprehensive watershed level Biological Assessment with the U.S. Fish and Wildlife Service (FWS). Consultation under the National Historic Preservation Act of 1966 (as amended) has been conducted in accordance with BLM's National Programmatic Agreement and the implementing Protocol agreement between Idaho BLM and the Idaho State Historic Preservation Office.

2.0 PROJECT DESCRIPTION

2.1 PROPOSED ACTION

2.1.1 Inside Desert Allotment

The Proposed Decision is to implement Alternative 1of Environmental Assessment, EA#02049. A 10-year grazing permit will be issued from 05/02/2003 to 05/02/2013, with terms and conditions for the Inside Desert Allotment (#00353) to Brackett Livestock, Inc. (operator number 1101837), as shown in Table 2.1.1. The management guidelines and pasture specific guidelines (Table 2.1.2) are part of alternative 1 that will be part of parameter in the development of an annual grazing plan (AGP).

2.1.1.1 Grazing Permit Terms and Conditions

Table 2.1.1 Grazing Preference in the Inside Desert Allotment #00353, Term 2003 - 2012

Livestock number/kind	Season	%PL	Active AUMs	Total AUMs
1,958 C	3/1 - 2/28	100	23,499	23,499
30 H	3/1 - 2/28	100	360	360

* This allotment is managed in conjunction with other allotments and private land. Year-round grazing is proposed to provide management flexibility in the event of drought, fire, etc. Annual grazing authorizations would be done through a grazing management plan that outlines pasture movements through all allotments on public lands.

1. An Annual Grazing Plan (AGP) is required to be developed annually prior to the start of the grazing year between the BLM and the permittee with the following parameters outlined: livestock numbers, season of use, active AUMs, Management Guidelines and Pasture Specific Guidelines (refer to Table 3 – Pasture Specific Guidelines). The AGP with be enforced under regulation 43 CFR 4100.
2. Protein blocks, salt blocks, and other supplements used during the grazing period will be placed a minimum of ¼ mile from existing water sources. In seedings, mineral placement will be at least ½ mile from any large sagebrush islands.
3. In accordance with 43 CFR 4130.3-2 (d), submission of an actual use report is required within 15 days after completion of annual grazing use.

2.1.1.2 Projects

Inside Desert Fence –3 (IDF-3) located in the Juniper Lake pasture will be constructed as proposed.

Inside Desert Pipeline – 12 (IDP-12) located in the East Middle Butte pasture will be constructed as proposed.

2.1.1.3 Grazing Management Guidelines for the Poison Butte Allotment

1. **Native species**. Upland utilization on native bunchgrass plant communities (pastures greater than 50% native by cover) would be limited to the light use category (up to 40%) of current growth. Utilization would be conducted based on the Height-Weight methodology described in Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*.

2. **Seeded species**. Seeded pastures (pastures greater than 50% seeded non-native species and less than 15% sagebrush cover) would be limited to 50% utilization. Utilization would be conducted based on the Height-Weight methodology described in Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*.

3. **Seeded species**. Seeded pastures with greater than 15% sagebrush cover would be limited to 40% utilization. Utilization would be conducted based on the Height-Weight methodology described in Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*.

4. **FAR upward trend or PFC.** Stream reaches assessed at functional-at-risk (FAR) with an upward trend and those assessed at properly functioning condition would be subject to a minimum 4-inch median stubble height on the Key Hydric Plant Species, at the end of the growing season (Clary and Leininger 2000). This stubble height standard is subject to change if a different standard is found appropriate from long-term trend monitoring using the Greenline Composition method as described in *Monitoring the Vegetation Resources in Riparian Areas* (Winward 2000). It may also be subject to change depending upon the site-specific growth potential of the Key hydric plant species. The monitoring protocol requires that a stubble height standard apply to the dominant hydric vegetation species, such as: Nebraska sedge (*Carex nebrascensis*), wooly sedge (*Carex lanuginosa*), small-winged sedge (*Carex microptera*), sword-leaf rush (*Juncus ensifolius).*

5. **FAR no apparent trend or downward trend.** Stream reaches assessed at functional-at-risk with no apparent trend or a downward trend or are non-functional would be subject to a minimum 6 inch stubble height on the Key Hydric Plant Species, at the end of the growing season (Clary and Leininger 2000). This stubble height standard is subject to change if a different standard is found appropriate from long-term trend monitoring using the Greenline Composition method as described in *Monitoring the Vegetation Resources in Riparian Areas* (Winward 2000). It may also be subject to change depending upon the site-specific growth potential of the Key hydric plant species. The monitoring protocol requires that a stubble height standard apply to the dominant hydric vegetation species, such as: Nebraska sedge (*Carex nebrascensis*), wooly sedge (*Carex lanuginosa*), small-winged sedge (*Carex microptera*), sword-leaf rush (*Juncus ensifolius).*

6. **Fish bearing streams**. On known or suspected sensitive fish bearing streams livestock would be managed so that streambank alteration does not exceed 10% of the streambank in designated monitoring areas (Cowley 2002). This stream bank alteration standard is subject to change if a different standard is found necessary based on using the Greenline Composition method as decribed in *Monitoring the Vegetation Resources in Riparian Areas* (Winward 2000).

7. **Non-fish bearing streams**. On known or suspected sensitive fish bearing streams livestock would be managed so that streambank alteration does not exceed 20% of the streambank in key areas (Cowley 2002). This stream bank alteration standard is subject to change if a different

standard is found necessary based on using the Greenline Composition method as decribed in *Monitoring the Vegetation Resources in Riparian Areas* (Winward 2000).

8. **Riparian**. Livestock would be managed so that no more than 50% frequency of nipping on current year leaders on key riparian shrubs accessible to livestock (based on Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*). Key riparian shrubs include willow, rose, aspen, serviceberry and chokecherry.

9. **Upland**. Livestock would be managed so that no more than 50% frequency of nipping on current year leaders on key riparian shrubs accessible to livestock (based on Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*). Key upland shrubs include bitterbrush and sagebrush

10. **Crucial Big Game Winter Range.** Livestock would be managed so that no more than 50% frequency of nipping of current year leaders occurs on key shrubs where available woody species are susceptible to browsing damage and browsing is affecting normal growth form or age class structure. Woody species of concern include bitterbrush and sagebrush depending upon the site and other resource values.

11. **Pastures With Known Slickspot Populations**. Herding, trailing and gathering of livestock would not occur during periods when soils are saturated and slickspots are most vulnerable to trampling impacts. Probable periods with saturated soils include spring thaw (when the frost leaves the ground) and immediately following significant moisture events at anytime of the year.

12. **Pastures With Known Slickspot Populations.** No grazing in occupied pastures would occur February 1 to March 31, which is the most probable period for saturated soils.

13. **Pastures With Known LEPA populations**. Spring-deferred rotation grazing management would be implemented with the specific intent to limit livestock hoof impacts during periods with wet soils (April 1 to June 1). Utilization levels for this use period would be limited to 20% at key areas. Approximately half of these pastures would be used in the spring (April 1 - June 23) and summer (June 24 to September 23). Spring/summer grazed pastures would not be grazed in the fall or winter of the same grazing year and would also be rested the spring/summer of the following year. In the years when they are not grazed in the spring, the summer, fall and winter use of these pastures could occur at a rate of up to 40% utilization on native range and up to 50% utilization on rangeland seeded with non-native wheatgrass. Utilization would be measured at key areas as described in the monitoring section below.

Illustration of grazing management guidelines 12 and 13 for 3-years:

Feb 1 – Mar 31		**Apr 1 – June 23 at 20% utilization**			**Jun 23 – Sep 22 at 40% or 50% utilization**			**Sep 23 – Jan 31 at 40% or 50% utilization**			
None	None	graze	graze	graze	graze	graze	graze	rest	rest	rest	rest
None	None	rest	rest	rest	rest	rest	rest	graze	graze	graze	graze
None	None	graze	graze	graze	graze	graze	graze	rest	rest	rest	rest

15. **Bighorn winter/lambing range**. Pastures containing winter or lambing habitat for bighorn sheep would only be grazed by livestock in alternate years during the critical time periods. The critical time periods are: Winter (December 1 to April 1) and Lambing (April 15 to June 30). Pastures of concern include Poison Butte, Inside Lakes and Rock Corral.

16. **Crucial Mule Deer Winter Range**. Pastures containing crucial mule deer winter range would only be grazed by livestock in alternate years during the critical time period. The critical time period is December 1 to April 30. In the Poison Butte Allotment the pastures with identified mule deer crucial winter range include: Rock Corral, Poison Butte, West Dishpan, East Dishpan, South Sheep, West Airport, East Airport, West Halogeton, East Halogeton, and West Nevada Strip. Within the Inside Desert Allotment pastures that contain crucial mule deer winter range include: Horse Lake, Pense Butte, Halogeton, Horse Hill, South Horse Hill, School Section, Reservoir, East Flat, South Diamond, and Lower Spring Creek Pastures.

17. **Knowledgeable and reasonable practices** other than those listed herein may be used to determine the timing of livestock movements. Any alternative utilization level other than those listed in 1 – 16 above would be based on the following: (a) current scientific literature or other applicable study results which document the biological effect of the alternative levels of use on key species or (b) the recommendations of an interdisciplinary team responsible for reviewing, interpreting, and documenting the scientific literature or study results.

Table 2.1.2 Pasture Specific Guidelines	
Inside Desert Allotment #00353 Total Acres: 105,895 2/	
PASTURES	MANAGEMENT AND PASTURE SPECIFIC GUIDELINES
Native: Poison Creek Bend, Crawfish	1, 9 and 17 1/
Seeded: Antelope Butte West, Antelope Butte East, Antelope Butte, North Rim Middle Trough	2, 9 and 17
Seeded, has > 15% sagebrush: East Middle Butte	3, 9 and 17 1/
Native, has fish bearing streams and riparian habitat: FFR	1, 4, 5, 6, 8, 9 and 17 1/
Native, has fish bearing streams, riparian habitat, and crucial deer winter range: East Flat Creek	1, 4, 5, 6, 8, 9, 16 and 17 1/
Native, has non-fish bearing streams and riparian habitat: Nevada Strip	1, 4, 5, 7, 8, 9 and 17 1/
Seeded, with known slickspot peppergrass populations: Juniper Lake, Clover Butte South, Draw Below the Well, North Well, Rocky Draw	2, 9, 11, 12, 13 and 17
Seeded, has > 15% sagebrush and slickspot peppergrass populations West Well	3, 9, 11, 12, 13 and 17
Seeded, has > 15% sagebrush, streams and riparian habitat: Lower Spring Creek	3, 4, 5, 7, 8, 9 and 17 1/
Native, has crucial deer winter range: South Diamond, Horse Lake, Pense Butte, Horse, School Section, Horse Hill, Halogeton, South Horse Hill, Reservoir	1, 16 and 17 1/

1/ To mitigate impacts to sage grouse nesting habitat, each pasture will be rested once during a sixteen year cycle: Poison Creek Bend, East Middle Butte, South Diamond, Horse Lake, Pense Butte, Crawfish, Horse, FFR, School Section, Reservoir, East Flat Creek, Horse Hill, Halogeton, Lower Spring Creek, Nevada Strip and Sheep Island.

2/Livestock are rotated through 29 pastures whereby basic rules of deferment are followed. Pastures grazed in the growing season of one year typically receive growing season rest on the following year. Winter use tends to occur in the northern pastures of the allotment where the elevation is lower. As conditions warm in the spring the livestock are moved south. Eventually they go on Forest Service lands (7/2 – 10/15) and only a small herd of horses are left on the allotment (this use would also be scheduled in the annual grazing plan). Livestock begin to reappear on the allotment around October 15 and they are back in the northern pastures by winter.

2.1.2 Juniper Butte Allotment

The Proposed Decision is to implement Alternative 1of Environmental Assessment, EA#02049. A 10-year grazing permit will be issued from 05/02/2003 to 05/02/2013, with terms and conditions for the Juniper Butte Allotment (#01119) to Brackett Ranches, LTD (operator number 1101838), as shown in Table 2.1.3. The management guidelines and pasture specific guidelines (Table 2.1.4) are part of alternative 1 that will be part of the parameter in the development of an annual grazing plan (AGP).

2.1.2.1 Grazing Permit Terms and Conditions

Table 2.1.3 Juniper Butte Allotment #01119

Livestock number/kind	Season Of Use *	%PL	Active AUMs	Total AUMs
248 C	3/1 - 2/28	100	2,976	2,976

* This allotment is managed in conjunction with other allotments and private land. Year-round grazing is proposed to provide management flexibility in the event of drought, fire, etc. Annual grazing authorizations would be done through a grazing management plan that outlines pasture movements through all allotments on public lands.

1. An Annual Grazing Plan (AGP) is required to be developed annually prior to the start of the grazing year between the BLM and the permittee with the following parameters outlined: livestock numbers, season of use, active AUMs, Management Guidelines and Pasture Specific Guidelines (refer to Table 3 – Pasture Specific Guidelines). The AGP with be enforced under regulation 43 CFR 4100.
2. Protein blocks, salt blocks, and other supplements used during the grazing period will be placed a minimum of ¼ mile from existing water sources. In seedings, mineral placement will be at least ½ mile from any large sagebrush islands.
3. In accordance with 43 CFR 4130.3-2 (d), submission of an actual use report is required within 15 days after completion of annual grazing use.

2.1.2.2 Projects

No projects will be constructed in the Juniper Butte Allotment.

2.1.2.3 Grazing Management Guidelines for the Juniper Butte Allotment

1. **Native species**. Upland utilization on native bunchgrass plant communities (pastures greater than 50% native by cover) would be limited to the light use category (up to 40%) of current growth. Utilization would be conducted based on the Height-Weight methodology described in Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*.

4. **FAR upward trend or PFC.** Stream reaches assessed at functional-at-risk (FAR) with an upward trend and those assessed at properly functioning condition would be subject to a minimum 4-inch median stubble height on the Key Hydric Plant Species, at the end of the growing season (Clary and Leininger 2000). This stubble height standard is subject to change if a different standard is found appropriate from long-term trend monitoring using the Greenline Composition method as described in *Monitoring the Vegetation Resources in Riparian Areas*

(Winward 2000). It may also be subject to change depending upon the site-specific growth potential of the Key Hydric plant species. The monitoring protocol requires that a stubble height standard apply to the dominant hydric vegetation species, such as: Nebraska sedge (*Carex nebrascensis*), wooly sedge (*Carex lanuginosa*), small-winged sedge (*Carex microptera*), sword-leaf rush (*Juncus ensifolius).*

5. **FAR no apparent trend or downward trend.** Stream reaches assessed at functional-at-risk with no apparent trend or a downward trend or are non-functional would be subject to a minimum 6 inch stubble height on the Key Hydric Plant Species, at the end of the growing season (Clary and Leininger 2000). This stubble height standard is subject to change if a different standard is found appropriate from long-term trend monitoring using the Greenline Composition method as described in *Monitoring the Vegetation Resources in Riparian Areas* (Winward 2000). It may also be subject to change depending upon the site-specific growth potential of the Key Hydric plant species. The monitoring protocol requires that a stubble height standard apply to the dominant hydric vegetation species, such as: Nebraska sedge (*Carex nebrascensis*), wooly sedge (*Carex lanuginosa*), small-winged sedge (*Carex microptera*), sword-leaf rush (*Juncus ensifolius).*

6. **Fish bearing streams**. On known or suspected sensitive fish bearing streams livestock would be managed so that streambank alteration does not exceed 10% of the streambank in designated monitoring areas (Cowley 2002). This stream bank alteration standard is subject to change if a different standard is found necessary based on using the Greenline Composition method as decribed in *Monitoring the Vegetation Resources in Riparian Areas* (Winward 2000).

8. **Riparian**. Livestock would be managed so that no more than 50% frequency of nipping on current year leaders on key riparian shrubs accessible to livestock (based on Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*). Key riparian shrubs include willow, rose, aspen, serviceberry and chokecherry.

9. **Upland**. Livestock would be managed so that no more than 50% frequency of nipping on current year leaders on key riparian shrubs accessible to livestock (based on Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*). Key upland shrubs include bitterbrush and sagebrush

11. **Pastures With Known Slickspot Populations**. Herding, trailing and gathering of livestock would not occur during periods when soils are saturated and slickspots are most vulnerable to trampling impacts. Probable periods with saturated soils include spring thaw (when the frost leaves the ground) and immediately following significant moisture events at anytime of the year.

12. **Pastures With Known Slickspot Populations.** No grazing in occupied pastures would occur February 1 to March 31, which is the most probable period for saturated soils.

13. **Pastures With Known LEPA populations**. Spring-deferred rotation grazing management would be implemented with the specific intent to limit livestock hoof impacts during periods with wet soils (April 1 to June 1). Utilization levels for this use period would be limited to 20%

at key areas. Approximately half of these pastures would be used in the spring (April 1 - June 23) and summer (June 24 to September 23). Spring/summer grazed pastures would not be grazed in the fall or winter of the same grazing year and would also be rested the spring/summer of the following year. In the years when they are not grazed in the spring, the summer, fall and winter use of these pastures could occur at a rate of up to 40% utilization on native range and up to 50% utilization on rangeland seeded with non-native wheatgrass. Utilization would be measured at key areas as described in the monitoring section below.

Illustration of grazing management guidelines 12 and 13 for 3-years:

Feb 1 – Mar 31		**Apr 1 – June 23 at 20% utilization**			**Jun 23 – Sep 22 at 40% or 50% utilization**			**Sep 23 – Jan 31 at 40% or 50% utilization**			
None	None	graze	graze	graze	graze	graze	graze	rest	rest	rest	rest
None	None	rest	rest	rest	rest	rest	rest	graze	graze	graze	graze
None	None	graze	graze	graze	graze	graze	graze	rest	rest	rest	rest

17. **Knowledgeable and reasonable practices** other than those listed herein may be used to determine the timing of livestock movements. Any alternative utilization level other than those listed in 1 – 16 above would be based on the following: (a) current scientific literature or other applicable study results which document the biological effect of the alternative levels of use on key species or (b) the recommendations of an interdisciplinary team responsible for reviewing, interpreting, and documenting the scientific literature or study results.

Table 2.1.4 Pasture Specific Guidelines

Juniper Butte Allotment #01119 Total Acres: 17,898	
PASTURES	MANAGEMENT AND PASTURE SPECIFIC GUIDELINES
Native, has known slickspot peppergrass populations: Mosquito Lake Butte, Mosquito Lake Field	1, 9, 11, 12, 13, and 17
Native, has fish habitat and FAR: Upper Riparian	1, 5, 6, 8, 9, and 17
Native: East Well	1, 9, and 17
Native, has riparian and fish habitat: Upper Salls, Lower Salls,	1,4, 6, 8, 9, and 17

1/Livestock are rotated through 7 pastures whereby basic rules of deferment are followed. Pastures grazed in the growing season of one year typically receive growing season rest on the following year. The Salls Pasture is mostly private land.

2.1.3 Poison Butte Allotment

The Proposed Decision is to implement Alternative 1of Environmental Assessment, EA#02049. A 10-year grazing permit will be issued from 05/02/2003 to 05/02/2013, with terms and conditions for the Poison Butte Allotment to C.E. Brackett Cattle Company (operator number 1101873), as shown in Table 2.1.5. The management guidelines and pasture specific guidelines

(Table 2.1.6) are part of Alternative 1, which will be part of the parameters in the development of an annual grazing plan (AGP).

2.1.3.1 Grazing Permit Terms and Conditions

Table 2.1.5 Poison Butte Allotment #00354

Livestock number/kind	Season Of Use *	%PL	Active AUMs	Total AUMs
1,219 C	3/1 - 2/28	100	14,633	14,633
30 H	3/1 - 2/28	100	360	360

* This allotment is managed in conjunction with other allotments and private land. Year-round grazing is proposed to provide management flexibility in the event of drought, fire, etc. Annual grazing authorizations would be done through a grazing management plan that outlines pasture movements through all allotments on public lands.

1. An Annual Grazing Plan (AGP) is required to be developed annually prior to the start of the grazing year between the BLM and the permittee with the following parameters outlined: livestock numbers, season of use, active AUMs, Management Guidelines and Pasture Specific Guidelines (refer to Table 3 – Pasture Specific Guidelines). The AGP with be enforced under regulation 43 CFR 4100.
2. Protein blocks, salt blocks, and other supplements used during the grazing period will be placed a minimum of ¼ mile from existing water sources. In seedings, mineral placement will be at least ½ mile from any large sagebrush islands.
3. In accordance with 43 CFR 4130.3-2 (d), submission of an actual use report is required within 15 days after completion of annual grazing use.

2.1.3.2 Projects

Poison Butte Fence - 1 (PBF-1). This fence will be constructed to divide the Salt Bush pasture, pending appropriate clearances.

Poison Butte Pipeline – 11 (PBP-11). This trough is currently located in the Wilderness Study Area (WSA) and will be removed. The trough will be re-located outside of the WSA, pending appropriate clearances.

Poison Butte Exclosure – 1 (PBE – 1). An approximately 1880’ fence will be constructed to create an exclosure around the Post Office, pending appropriate clearances.

2.1.3.3 Grazing Management Guidelines for the Poison Butte Allotment

1. **Native species**. Upland utilization on native bunchgrass plant communities (pastures greater than 50% native by cover) would be limited to the light use category (up to 40%) of current growth. Utilization would be conducted based on the Height-Weight methodology described in Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*.

2. **Seeded species**. Seeded pastures (pastures greater than 50% seeded non-native species and less than 15% sagebrush cover) would be limited to 50% utilization. Utilization would be

conducted based on the Height-Weight methodology described in Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*.

3. **Seeded species**. Seeded pastures with greater than 15% sagebrush cover would be limited to 40% utilization. Utilization would be conducted based on the Height-Weight methodology described in Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*.

4. **FAR upward trend or PFC.** Stream reaches assessed at functional-at-risk (FAR) with an upward trend and those assessed at properly functioning condition would be subject to a minimum 4-inch median stubble height on the Key Hydric Plant Species, at the end of the growing season (Clary and Leininger 2000). This stubble height standard is subject to change if a different standard is found appropriate from long-term trend monitoring using the Greenline Composition method as described in *Monitoring the Vegetation Resources in Riparian Areas* (Winward 2000). It may also be subject to change depending upon the site-specific growth potential of the Key Hydric plant species. The monitoring protocol requires that a stubble height standard apply to the dominant hydric vegetation species, such as: Nebraska sedge (*Carex nebrascensis*), wooly sedge (*Carex lanuginosa*), small-winged sedge (*Carex microptera*), sword-leaf rush (*Juncus ensifolius).*

6. **Fish bearing streams**. On known or suspected sensitive fish bearing streams livestock would be managed so that streambank alteration does not exceed 10% of the streambank in designated monitoring areas (Cowley 2002). This stream bank alteration standard is subject to change if a different standard is found necessary based on using the Greenline Composition method as decribed in *Monitoring the Vegetation Resources in Riparian Areas* (Winward 2000).

7. **Non-fish bearing streams**. On known or suspected non-fish bearing streams livestock would be managed so that streambank alteration does not exceed 20% of the streambank in key areas (Cowley 2002). This stream bank alteration standard is subject to change if a different standard is found necessary based on using the Greenline Composition method as decribed in *Monitoring the Vegetation Resources in Riparian Areas* (Winward 2000).

8. **Riparian**. Livestock would be managed so that no more than 50% frequency of nipping on current year leaders on key riparian shrubs accessible to livestock (based on Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*). Key riparian shrubs include willow, rose, aspen, serviceberry and chokecherry.

9. **Upland**. Livestock would be managed so that no more than 50% frequency of nipping on current year leaders on key riparian shrubs accessible to livestock (based on Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*). Key upland shrubs include bitterbrush and sagebrush

10. **Crucial Big Game Winter Range.** Livestock would be managed so that no more than 50% frequency of nipping of current year leaders occurs on key shrubs where available woody species are susceptible to browsing damage and browsing is affecting normal growth form or age class

structure. Woody species of concern include bitterbrush and sagebrush depending upon the site and other resource values.

11. **Pastures With Known Slickspot Populations**. Herding, trailing and gathering of livestock would not occur during periods when soils are saturated and slickspots are most vulnerable to trampling impacts. Probable periods with saturated soils include spring thaw (when the frost leaves the ground) and immediately following significant moisture events at anytime of the year.

12. **Pastures With Known Slickspot Populations.** No grazing in occupied pastures would occur February 1 to March 31, which is the most probable period for saturated soils.

13. **Pastures With Known LEPA populations**. Spring-deferred rotation grazing management would be implemented with the specific intent to limit livestock hoof impacts during periods with wet soils (April 1 to June 1). Utilization levels for this use period would be limited to 20% at key areas. Approximately half of these pastures would be used in the spring (April 1 - June 23) and summer (June 24 to September 23). Spring/summer grazed pastures would not be grazed in the fall or winter of the same grazing year and would also be rested the spring/summer of the following year. In the years when they are not grazed in the spring, the summer, fall and winter use of these pastures could occur at a rate of up to 40% utilization on native range and up to 50% utilization on rangeland seeded with non-native wheatgrass. Utilization would be measured at key areas as described in the monitoring section below.

Illustration of grazing management guidelines 12 and 13 for 3-years:

Feb 1 – Mar 31		**Apr 1 – June 23 at 20% utilization**			**Jun 23 – Sep 22 at 40% or 50% utilization**			**Sep 23 – Jan 31 at 40% or 50% utilization**			
None	None	graze	graze	graze	graze	graze	graze	rest	rest	rest	rest
None	None	rest	rest	rest	rest	rest	rest	graze	graze	graze	graze
None	None	graze	graze	graze	graze	graze	graze	rest	rest	rest	rest

14. **Bull trout**. For pastures within bull trout spawning habitat, livestock use would occur between June 15 and August 15 to protect spawning bull trout.

15. **Bighorn winter/lambing range**. Pastures containing winter or lambing habitat for bighorn sheep would only be grazed by livestock in alternate years during the critical time periods. The critical time periods are: Winter (December 1 to April 1) and Lambing (April 15 to June 30). Pastures of concern include Poison Butte, Inside Lakes and Rock Corral.

16. **Crucial Mule Deer Winter Range**. Pastures containing crucial mule deer winter range would only be grazed by livestock in alternate years during the critical time period. The critical time period is December 1 to April 30. In the Poison Butte Allotment the pastures with identified mule deer crucial winter range include: Rock Corral, Poison Butte, West Dishpan, East Dishpan, South Sheep, West Airport, East Airport, West Halogeton, East Halogeton, and West Nevada Strip. Within the Inside Desert Allotment pastures that contain crucial mule deer winter

range include: Horse Lake, Pense Butte, Halogeton, Horse Hill, South Horse Hill, School Section, Reservoir, East Flat, South Diamond, and Lower Spring Creek Pastures.

17. **Knowledgeable and reasonable practices** other than those listed herein may be used to determine the timing of livestock movements. Any alternative utilization level other than those listed in 1 – 16 above would be based on the following: (a) current scientific literature or other applicable study results which document the biological effect of the alternative levels of use on key species or (b) the recommendations of an interdisciplinary team responsible for reviewing, interpreting, and documenting the scientific literature or study results.

Table 2.1.6 Pasture Specific Guidelines	
Poison Butte Allotment #00354 Total Acres: 76,357 2/	
PASTURES	MANAGEMENT AND PASTURE SPECIFIC GUIDELINES
Native, has known slickspot peppergrass populations: Rock Corral	1, 3.,9, 11, 12, 13, 16 and 17
Seeded, has > 15% sagebrush and known slickspot peppergrass populations: South Poison Creek Burn, North Poison Creek Burn	3, 9, 11,12, 13 and 17
Seeded, has known slickspot peppergrass populations: South Herbs Camp, Salt Bush	2, 9, 11, 12, 13 and 17
Native, has crucial deer winter range: E. Airport, E. Dishpan, W. Dishpan, South Sheep, West Airport, West Nevada Strip, Lower Spring Creek	1,9, 10, 16 and 17 1/
Seeded, has crucial deer winter range: West Halogeton, East Halogeton,	3, 9, 16 and 17 1/
Native, has Bighorn winter/lambing range: Poison Butte, Inside Lakes, Rock Corral	1,3, 9, 15 and 17
Native, has bull trout spawning habitat: Dave's Island	1, 4, 6, 8, 9, 14 and 17. 1/
Native, has non-fish bearing streams: Lower Spring	1, 4, 7, 8, 9 and 17 1/
Seeded, has > 15% sagebrush: Middle Butte	3, 9 and 17
Native: E. Poison Butte, N. Sheep, E. Nevada Strip	1, 9 and 17 1/
Seeded: North Herbs Camp	2, 9 and 17

1/ To mitigate impacts to sage grouse nesting habitat, each pasture will be rested once during a fourteen year cycle: E. Airport, E. Dishpan, W. Dishpan, South Sheep, West Airport, West Nevada Strip, Lower Spring Creek, West Halogeton, East Halogeton, E. Poison Butte, N. Sheep, E. Nevada Strip, Dave's Island and Lower Spring Creek.

2/Livestock are rotated through 27 pastures whereby basic rules of deferment are followed. Pastures grazed in the growing season of one year typically receive growing season rest on the following year. Winter use tends to occur in the northern pastures of the allotment where the elevation is lower. As conditions warm in the spring the livestock are moved south. Eventually they go on Forest Service lands (7/2 – 10/15) and only a small herd of cattle

and horses are left on the allotment (this use would also be scheduled in the annual grazing plan). Livestock begin to reappear on the allotment around October 15 and they are back in the northern pastures by winter.

2.1.4 Yahoo Allotment

The Proposed Decision is to implement Alternative 3 of Environmental Assessment, EA#02049. A 10-year grazing permit will be issued from 05/02/2003 to 05/02/2013, with terms and conditions for the Yahoo Allotment to Salmon Falls Land & Livestock (operator number 1101916), as shown in Table 2.1.7. The management guidelines and pasture specific guidelines (Table 2.1.8) are part of Alternative 3, which will be part of the parameters in the development of an annual grazing plan (AGP).

2.1.4.1 Grazing Permit Terms and Conditions

Table 2.1.7 Grazing Preference in the Yahoo Allotment #01143, Term 2003 - 2012

Livestock number/kind	Season	%PL	Active AUMs	Total AUMs
226 C	3/1 - 2/28	100	2,717	2,717

2.1.4.2 Projects

No projects will be constructed in the Yahoo Allotment.

2.1.4.3 Grazing Management Guidelines for the Yahoo Allotment

1. **Native species**. Upland utilization on native bunchgrass plant communities (pastures greater than 50% native by cover) would be limited to the light use category (up to 40%) of current growth. Utilization would be conducted based on the Height-Weight methodology described in Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*.

2. **Seeded species**. Seeded pastures (pastures greater than 50% seeded non-native species and less than 15% sagebrush cover) would be limited to 50% utilization. Utilization would be conducted based on the Height-Weight methodology described in Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*.

3. **Seeded species**. Seeded pastures with greater than 15% sagebrush cover would be limited to 40% utilization. Utilization would be conducted based on the Height-Weight methodology described in Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*.

4. **FAR upward trend or PFC.** Stream reaches assessed at functional-at-risk (FAR) with an upward trend and those assessed at properly functioning condition would be subject to a minimum 4-inch median stubble height on the Key Hydric Plant Species, at the end of the growing season (Clary and Leininger 2000). This stubble height standard is subject to change if a different standard is found appropriate from long-term trend monitoring using the Greenline Composition method as described in *Monitoring the Vegetation Resources in Riparian Areas* (Winward 2000). It may also be subject to change depending upon the site-specific growth potential of the Key Hydric plant species. The monitoring protocol requires that a stubble height

standard apply to the dominant hydric vegetation species, such as: Nebraska sedge (*Carex nebrascensis*), wooly sedge (*Carex lanuginosa*), small-winged sedge (*Carex microptera*), sword-leaf rush (*Juncus ensifolius).*

7. **Non-fish bearing streams**. On known or suspected non-fish bearing streams livestock would be managed so that streambank alteration does not exceed 20% of the streambank in key areas (Cowley 2002). This stream bank alteration standard is subject to change if a different standard is found necessary based on using the Greenline Composition method as decribed in *Monitoring the Vegetation Resources in Riparian Areas* (Winward 2000).

8. **Riparian**. Livestock would be managed so that no more than 50% frequency of nipping on current year leaders on key riparian shrubs accessible to livestock (based on Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*). Key riparian shrubs include willow, rose, aspen, serviceberry and chokecherry.

9. **Upland**. Livestock would be managed so that no more than 50% frequency of nipping on current year leaders on key riparian shrubs accessible to livestock (based on Interagency Technical Reference 1734-3, *Utilization Studies and Residual Measurements*). Key upland shrubs include bitterbrush and sagebrush

17. **Knowledgeable and reasonable practices** other than those listed herein may be used to determine the timing of livestock movements. Any alternative utilization level other than those listed in 1 – 16 above would be based on the following: (a) current scientific literature or other applicable study results which document the biological effect of the alternative levels of use on key species or (b) the recommendations of an interdisciplinary team responsible for reviewing, interpreting, and documenting the scientific literature or study results.

Table 2.1.8 Pasture Specific Guidelines

Yahoo Allotment #00354 Total Acres: 13,795	
PASTURES	MANAGEMENT AND PASTURE SPECIFIC GUIDELINES
Native: Tuana 2, Big, Calving	1,9, and 17
Seeded: Tuana 1	2, 9, and 17
Seeded, has > 15% sagebrush: East Lemoyne, Storage Tank	3, 9, and 17
Seeded, has streams and riparian habitat: Coyote Springs	2, 4, 7, 8, 9, and 17

2.2 OTHER ALTERNATIVES

2.2.1 Alternative 2

This alternative would continue existing grazing management authorized under a new permit. TNR would continue to be authorized annually in addition to the preference level. TNR authorizations would be limited to historical levels. No new grazing management guidelines

would be applied. This alternative does not address the need for grazing changes identified in the standards and guides assessments.

2.2.2 Alternative 3

Alternative 3 and was developed to analyze the conversion of the average annual level of TNR issued over the previous 10-year period, to the permit preference. The proposed management guidelines, developed to address determinations from the standards and guidelines assessment and minimize effects to bull trout and slickspot peppergrass, would be applied. Other resource issues such as forage allocations, TES species, wildlife, watershed and specific riparian conditions were considered and guidelines were adopted by the ID team in developing this alternative. Pasture rotations would be set in an annual grazing plan.

2.2.3 Alternative 4

This alternative is based on the standard grazing management practice of "take half, leave half". The forage production levels show over 140,000 AUMs are available. The proposed management guidelines, developed to address determinations from the standards and guidelines assessment and minimize effects to bull trout and slickspot peppergrass, would be applied. Other resource issues such as forage allocations, TES species, wildlife, watershed and specific riparian conditions were considered and guidelines were adopted by the ID team in developing this alternative. Pasture rotations would be set in an annual grazing plan. (Forage production was adjusted under this alternative by applying a crop year factor of 1.6 to the data collected in 1997. The crop year factor normalizes the production collected in a wet year.

2.2.4 Alternative 5

This alternative is a modification of Alternative 2. Under this alternative grazing permits would be renewed at the current level and TNR would continue to be authorized annually with the addition of the Grazing Management Guidelines, developed to address determinations from the standards and guidelines assessment and minimize effects to bull trout and slickspot peppergrass. This alternative addresses meeting the need for grazing changes identified in the standards and guides assessments. Other resource issues such as forage allocations, TES species, wildlife, watershed and specific riparian conditions were considered and guidelines were adopted by the ID team in developing this alternative.

3.0 SPECIES LIST

In the Jarbidge Field Office area, there are seven federally listed species, one Proposed for Listing species and two Candidate species (Species List #1-4-02-SP-915 2002). These species are:

Listed Species:

- Bald eagle (*Haliaeetus leucocephalus*)
- Bull trout (*Salvelinus confluentus*)
- Utah valvata snail (*Valvata utahensis*)
- Snake River physa snail (*Physa natricina*)
- Bliss Rapids snail (*Taylorconcha serpenticola*)
- Idaho springsnail (*Fontelicella idahoensis*)
- Bruneau hot springsnail (*Pyrgulopsis bruneauensis*)

Proposed for Listing Species:

- Slick spot peppergrass (*Lepidium papilliferum*)

Candidate Species:

- Yellow-billed cuckoo (*Coccyzus americanus*)
- Columbia spotted frog (*Rana luteiventris*)

Of these, the Proposed Action has the potential to affect one Proposed for Listing species: slickspot peppergrass; and three Listed species: bull trout, Bliss Rapids snail, and bald eagle. .

Determinations of Effects of the Proposed Action for the Listed Species in this Biological Assessment are pursuant to Section 7 of the ESA (FWS 1978) and are defined as follows:

- **No Effect**: the proposed action will not affect listed species or critical habitat.
- **May Affect, Not Likely to Adversely Affect**: effects on the species or critical habitat are expected to be beneficial, discountable, or insignificant. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact. Discountable effects are those extremely unlikely to occur.
- **May Affect, Likely to Adversely Affect**: any adverse effect to the listed species or critical habitat may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions. In the event the overall effect of the proposed action is beneficial to the listed species or critical habitat, but is also likely to cause some adverse effects, then the proposed action "is likely to adversely affect" the listed species or critical habitat.
- **Is Likely to Jeopardize Proposed Species or Adversely Modify Critical Habitat**: the action agency or the FWS identifies situations in which the proposed action is likely to jeopardize the proposed species or adversely modify the proposed critical habitat. Jeopardy is further defined as an action that would be reasonably expected, directly or

indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers or distribution of that species.

4.0 DESCIPTION OF ANALYSIS AREA

4.1 ENVIRONMENTAL BASELINE

The proposed action would occur in select allotments in the Jarbidge Field Office Area contained within the area bound by Salmon Falls Creek on the east, the Bruneau River on the west, the Nevada/Idaho state line and the Forest Service boundary on the south, and the Snake River on the north. The entire area is within Elmore, Twin Falls and Owyhee Counties, Idaho and Elko County, Nevada. The allotments included in the proposed action are Cedar Butte/Devil Creek, Hallelujah, Inside Desert, Juniper Butte, Kubic, Poison Butte, and Yahoo. The total area of Bureau of Land Management (BLM) land being assessed is 327,345 acres

The Cedar Butte/Devil Creek and Hallelujah allotments have no listed plant or animal species present. The Kubic allotment has no listed plants, but one listed animal species (bald eagle) is known to occasionally use the allotment. A determination of No Effect was made for the Kubic allotment for bald eagle. These three allotments have no effects to listed plant or animal species and are not included in this biological assessment of the proposed action.

The area is primarily volcanic in origin. The landscape can be characterized as rolling hills and buttes, old shield volcanoes, and plateaus that are dissected by deep canyons. Elevation ranges from roughly 3,000 feet in the Yahoo Allotment in the North to over 6,600 feet in the southern portion of the Inside Desert Allotment. Precipitation ranges from a low of eight inches per year on the north side to eleven inches per year in the remainder of the proposed action area. Precipitation generally falls in the spring as rain/snow showers and winter as snow. Summers are generally dry and warm while winters are cold.

Soils within the analysis area are quite variable primarily due to varied geology. In general, soils of the north end allotments consist of sandy or silty loams. These soils were the result of lacustrine deposits from old Lake Idaho. The allotments in the middle area have loamy soils and the allotment areas approaching the foothills are usually shallow claypans derived from weathered rhyolite. Erosion hazards are slight to moderate. Further information can be obtained from the Jarbidge Field Office Area Proposed Resource Management Plan/Final Environmental Impact Statement (September, 1985) (Bureau of Land Management 1985).

Range condition in the Analysis Area varies. The Proposed Jarbidge RMP and Final EIS (Bureau of Land Management 1985) included Map 3-2 which depicted range condition at that time (mid-1980's). The map shows large blocks of range mapped in poor condition with small areas marked as fair and good condition range. There were some large areas mapped as seeding (covering a portion of the Yahoo Allotment). Smaller blocks of seeding are shown to be present in the Inside Desert and Poison Butte allotments. Other areas were mapped as burn, including most of the Juniper Butte Allotment. The scale is not appropriate for detailed comparisons. Plant communities have been altered by wild fire over the past 17 years. Much of the poor condition rangeland has been burned and was subsequently seeded including large portions of all the allotments in the Analysis Area.

4.1.1 Analysis Area Allotments

4.1.1.1 Inside Desert (Poison Creek East)

This is an 115,967-acre allotment located in the southwest section of the Field Office Area. There are approximately 30 pastures. About 21,550 acres of the Inside Desert Allotment are in the Poison Creek watershed. This includes all or parts of 9 pastures and 2 holding pastures. The Poison Creek watershed empties into the Jarbidge River, nodal bull trout habitat. Numerous small creeks and drainages occur in this allotment. Elevations range from 4400' in the north to 6700' in the south. Several soils occur in large acreages within this allotment, summarized as follows:

Table 4.1.1 Inside Desert Allotment Soils

Soil Series	Setting	Depth Class	Water Erosion Hazard	Wind Erosion Hazard
Colthorp stony silt loam, 0-8% slopes	Basalt plains at 3500' elev., ave. 10" precipitation, ave.50°F temperature	Shallow	Moderate	--
Houk silty clay loam, 0-2% slopes	Floodplains, stream terraces at 5100' elev., ave 15" precipitation, ave. 42°F temperature	Very deep	Slight	--
Haplaquolls-Xerofluvents complex, 0-2% slopes	Floodplains at 4200' elev., ave. 19" precipitation, ave. 45°F temperature	Very deep	Slight	Moderate

Within the Inside Desert Allotment, the big sagebrush communities have been fragmented by wildfire and further impacted by the seeding of non-native perennial grasses (intermediate and crested wheatgrass). However, a strong native component exists in many areas.

Generally speaking, the seedings have lower diversity of native forbs and higher levels of non-nativeannuals and bare ground than the native areas. Remaining perennial forbs in the seedings are generally fire tolerant (phlox and lupine). Biotic crusts are more common, in a later seral stage, and more diverse in the native areas than in the seedings.

Rabbitbrush is increasing in some of the burned portions of the allotment, as well as in some unburned areas. Some native sites that should be dominated by Thurber needlegrass as the late seral species are in places dominated by Sandberg bluegrass and cheatgrass. Although bluebunch wheatgrass was present in sites where it should be dominant, it was not as abundant as it should have been. Cheatgrass and exotic annual forbs [bur buttercup, tumble mustard, and tansy mustard] were present at all of the native sites that should be dominated by Thurber needlegrass or bluebunch wheatgrass. Cheatgrass was present in some of the Idaho fescue habitats, but was usually concentrated along roads, pipelines, and water trough areas. The presence of the exotic annuals has likely altered normal successional pathways of the native areas.

A Standards and Guidelines Assessment and Determination was conducted in this allotment during the 2002 growing season. This assessment followed Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management, Final (Bureau of Land Management 1997). Standards being met were Watersheds, Seedings, and Exotic Plant Communities, other than Seedings. Standards not being met were Riparian Areas and Wetlands, Stream Channel/Flood plain, Native Plant Communities, Water Quality, and Threatened and Endangered Plants and Animals. Livestock grazing was determined to be a significant factor in the failure to meet the standards for Riparian Areas and Wetlands, Stream Channel/Flood plain, and Native Plant Communities. Livestock grazing was also determined to be a factor in not meeting the standards for Water Quality, and Threatened and Endangered Plants and Animals.

4.1.1.2 Juniper Butte

This is a 19,335-acre allotment located in the southeast section of the Field Office Area. There are approximately six pastures. Clover Creek forms the 5.7-mile eastern boundary of the allotment. Several other small drainages also occur in this allotment. Elevations range from 4900' at Clover Creek to 5560' at Mosquito Lake Butte. The dominant soils are Houk silty clay loam, 0-2 percent slope and Arbidge-Buko complex, 1-8 percent slopes. These soils are found on fan terraces, and flood plains and stream terraces at elevations of 3000' to 5100'. Average annual precipitation is 9-15" and the average annual air temperature is 42-50°F. These soils are very deep, well drained to somewhat poorly drained loams to silty clay loams with a slight hazard of water erosion and a moderate hazard of wind erosion.

Within the Juniper Butte Allotment, the big sagebrush community has been fragmented by wildfires and further impacted by the seeding of non-native perennial grasses (intermediate and crested wheatgrass). Seedings have a lower diversity of native forbs and high levels of non-native annuals. Perennial native forbs in seedings are generally fire and grazing tolerant (phlox and lupine). Microbiotic soil crusts are more common and diverse in native areas than in seedings. The reference area contained several species of lichen and at least 2 moss species. The amount of bare ground was lowest in the reference area and higher in the other native sites. Crested wheatgrass seedings tended to have a little more bare ground than intermediate wheatgrass seedings due to the bunch grass form and larger interspaces between plants.

Some native sites that should be dominated by Thurber needlegrass and bluebunch wheatgrass as the late seral species are dominated by Sandberg bluegrass and cheatgrass; others are dominated by bluebunch wheatgrass. Sandberg bluegrass provides less vertical obstruction for sage grouse than Thurber needlegrass or bluebunch wheatgrass. Cheatgrass and non-native annual forbs (bur buttercup) were present at nearly all the native and seeded sites. Portions of old burns were seeded with intermediate wheatgrass. Rabbitbrush is increasing in some pastures.

A Standards and Guidelines Assessment and Determination were conducted in this allotment during the 2002 growing season. This assessment followed Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management, Final (Bureau of Land Management 1997). Standards being met were Watersheds, Native Plant Communities, and Seedings. Standards not being met were Riparian Areas and Wetlands, Stream Channel/Flood plain, Water

Quality, and Threatened and Endangered Plants and Animals. Significant progress is being made to meet the Riparian Areas and Wetlands, Stream Channel/Flood plain, and Water Quality standards. Livestock grazing was determined to be a factor in the failure to meet the Water Quality, and Threatened and Endangered Plants and Animals standards. A standard not applicable was Exotic Plant Communities, other than Seedings.

4.1.1.3 Poison Butte (Poison Creek West)

This is an 83,405-acre allotment located in the southwest section of the Field Office Area. There are approximately 28 pastures. Jarbidge River forms the 37-mile western boundary of the allotment. The Dave Island pasture is also bounded by Dave Creek for 6 miles. The following watershed acres in this allotment empty into bull trout habitat: Poison Creek watershed – 30,408 acres, Dave Creek – 3,004 acres, East Fork Jarbidge – 4,803 acres, and Jarbidge River – 10,050 acres. Dave Creek contains known bull trout spawning habitat. Numerous other small drainages also occur in this allotment. Elevations range from 4700’ in the north to 7600’ in the south. Several soils occur in large acreages within this allotment, summarized as follows:

Table 4.1.2 Poison Butte Allotment Soils

Soil Series	Setting	Depth Class	Water Erosion Hazard	Wind Erosion Hazard
Colthorp stony silt loam, 0-8% slopes	Basalt plains at 3500' elev., ave. 10" precipitation, ave.50°F temperature	Shallow	Moderate	--
Houk silty clay loam, 0-2% slopes	Floodplains, stream terraces at 5100' elev., ave 15" precipitation, ave. 42°F temperature	Very deep	Slight	--
Haplaquolls-Xerofluvents complex, 0-2% slopes	Floodplains at 4200' elev., ave. 19" precipitation, ave. 45°F temperature	Very deep	Slight	Moderate
Power-Jenness complex, 0-2% slopes	Alluvial terraces, fan terraces at 3000' elev., ave. 9" precipitation, ave. 51°F temperature	Very deep	Slight	Moderate
Trevino-Rock outcrop complex, 0-8% slopes	Basalt plains at 3000' elev., ave. 9" precipitation, ave.52°F temperature	Shallow	Moderate	Moderate
Cleavage-Cleavage, Strongly Sloping Association, 8-20% slopes	Plateaus, 6300 -7200 elev., ave 14" precipitation, ave. 44°F temperature	Shallow	Slight	Slight
Sumine-Bullvaro-Hackwood, 30-75% slopes	Plateaus, 5600-7200 elev., ave 12" precipitation, ave. 42°F temperature	Moderate	High	Slight
Sumine-Vitale-Bullvaro Association, 30-75% slopes	Plateaus, Mountains, 5600-7200 elev., ave. 12" precipitation, ave. 42°F temperature	Shallow	High	Slight
Chen-Ebic Association, 2-15% slopes	Plateaus, 6300-6700 elev., ave. 14" precipitation, ave. 42°F temperature	Shallow	Slight	Slight

Within the Poison Butte Allotment, the big sagebrush communities have been fragmented by wildfire and further impacted by the seeding of non-native perennial grasses (intermediate and crested wheatgrass). However, a strong native component exists in many areas.

Generally speaking, the seedings have lower diversity of native forbs and higher levels of non-native annuals and bare ground than the native areas. Remaining perennial forbs in the seedings are generally fire tolerant (phlox and lupine). Biotic crusts are more common, in a later seral stage and diverse in the native areas than in the seedings.

The area has been highly fragmented by a number of fires in the late 1970's to the mid-1990's. Rabbitbrush is increasing in portions of the allotment, in burned as well as unburned areas. Sites that should be dominated by Thurber needlegrass as the late seral species are in places dominated by Sandberg bluegrass and cheatgrass. Although bluebunch wheatgrass, the climax species, is present at some range sites, it is less than would be expected for late seral conditions. Sites vegetated by low sagebrush and Idaho fescue appeared to be in better condition. Cheatgrass and non-native annual forbs [bur buttercup, tumble mustard, and tansy mustard] were present at nearly all of the native sites that should be dominated by Thurber needlegrass or bluebunch wheatgrass. The presence of these exotic annuals in these native communities has likely resulted in the alteration of normal (undisturbed) successional pathways.

A Standards and Guidelines Assessment and Determination wereconducted in this allotment during the 2002 growing season. This assessment followed Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management, Final (Bureau of Land Management 1997). Standards being met were Native Plant Communities and Seedings. Standards not being met were Watersheds, Riparian Areas and Wetlands, Stream Channel/Flood plain, Water Quality, and Threatened and Endangered Plants and Animals. Livestock grazing was determined to be a significant factor in the failure to meet the standards for Watersheds, Riparian Areas and Wetlands, Stream Channel/Flood plain, and Water Quality. Livestock grazing was also determined to be a factor in not meeting the standard for Threatened and Endangered Plants and Animals. A standard not applicable was Exotic Plant Communities, other than Seedings.

4.1.1.4 Yahoo

This is a 13,795-acre allotment located in the northeast section of the Field Office Area. There are approximately 15 pastures. This northern allotment boundary borders the Hagerman Fossilbeds National Monument and private land. The allotment lies over 0.5 miles from the Snake River. Yahoo Creek watershed covers about 16,785 acres. In the Yahoo Allotment portion of the Yahoo watershed, 7,765 acres are administered by the BLM; 640 acres are state land and 1,670 acres of private land, most of which is fenced out of the allotment and farmed. Elevations range from 2500’ at the Snake River to 3700’ in the southern portion of the allotment. The soils are varied and primarily derived from sedimentary deposits. These soils are found on fan terraces and dissected fan terraces at elevations of 3000’ to 3400’. Average annual precipitation is 9-11” and the average annual air temperature is 50-51°F. These soils are very deep to moderately deep, well-drained loams with a slight to moderate hazard of water erosion and a moderate hazard of wind erosion.

Table 4.2.3 Yahoo Allotment Soils

Soil Series	Setting	Depth Class	Water Erosion Hazard	Wind Erosion Hazard
Badlands Kudlac Association 30–90% slopes	Badlands, breaks, at 2900–3500 elev., ave. 8–10" precipitation, ave. 51°F temperature	Very Deep	Very Severe	Moderate
Bluegulch-Rock outcrop complex, 2–30% slopes	Dip slopes and ridges, 3500–4000 elev. Ave 8–10" precipitation, ave. 51°F temperature	Deep to bedrock	Moderate	Slight
Kudlac silty clay, 4–30% slopes	Terraces, breaks, at 2800–3500 elev., ave 8–10" precipitation, ave. 51°F temperature	Very Deep	Severe	Moderate
Owsel silt loam, 2 – 4% slopes	Sides of terraces, 3500 – 5500 elev, ave 8–12" precipitation, ave. 49°F temperature	Very deep	Moderate	Slight
Purdam silt loam, 4 – 8% slopes	Terraces, 3500 – 5500 elev, ave. 8–11" precipitation, ave. 50°F temperature	Moderately deep to hardpan	Moderate	Slight
Quincy loamy fine sand, 2 – 20%	Sides of terraces, 3000–3500 elev., ave. 8–10" precipitation, ave. 49°F temperature	Very deep	Slight	Severe
Rad silt loam, 0–2% slopes	Terraces, 3200–4500 elev., ave. 8–11" precipitation, ave. 49°F temperature	Very deep	Slight	Slight
Rakane-Blacknest complex, 4–8% slopes	Sides of terraces, 3000–4000 elev., ave. 8–10" precipitation, ave. 48°F temperature	Very deep	Moderate	Moderate
Sluka silt loam, 8–12% slopes	Sides of terraces, 3500–4500 elev., ave. 8–10" precipitation, ave., 50°F temperature	Moderately deep to a hardpan	Moderate	Moderate
Tulch silt loam, 0–2% slopes	Stream terraces, 3000–4000 elev., ave. 8–10" precipitation, ave. 49°F temperature	Very Deep	Slight	Slight

Wyoming big sagebrush is the dominant shrub. Seedings contained a total of 24 native forbs. A number of these forbs were found only in one location. Native forbs were present only in trace amounts in most seedings. More types of exotic plants (15 species) were present in seedings, than in native sites (6 species). Yellow salsify and tumble mustard were present at nearly all the native and seeded locations. All the native range sites have a high amount of cheatgrass present and in some areas it dominates the understory. Cheatgrass and Sandberg bluegrass were present at all the sites sampled within the allotment. Thurber needlegrass, which should have been the dominant late seral species, was present only in trace amounts. Needle-and-thread was fairly abundant at some sites (sandy textured soils) and not very abundant at others (loam and silt loam

textured soils). The most abundant native grass at all native sites was Sandberg bluegrass. Bottlebrush squirreltail was present at all of the native sites and relatively common. Forb diversity (35 species) was determined to be adequate; however, the abundance of the native forbs was very limited.

A Standards and Guidelines Assessment and Determination were conducted in this allotment during the 2002 growing season. This assessment followed Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management, Final (Bureau of Land Management 1997). Standards being met were Watersheds, Seedings, and Water Quality. Standards not being met were Riparian Areas and Wetlands, Stream Channel/Flood plain, Native Plant Communities, and Threatened and Endangered Plants and Animals. Livestock grazing was not determined to be a significant factor in the failure to meet these standards. A standard not applicable was Exotic Plant Communities, other than Seedings.

4.2 ONGOING ACTIVITIES

Livestock grazing currently occurs in the Analysis Area. Livestock grazing has historically been permitted at the following rates:

Table 4.2.1 Existing Grazing Rate by Allotment

Allotment	**Permitted AUMs**	**10-Year Average TNR AUMs**	**Total Grazing Use (AUMs)**
Inside Desert	10,088	7,210	17,298
Juniper Butte	1,059	1,271	2,330
Poison Butte	6,360	2,898	9,258
Yahoo	2,060	244	2,304

Sheep are also known to trail through the Yahoo allotment in the spring and fall.

Other livestock-related activities are water troughs, pipeline maintenance, access road maintenance, and fence maintenance (see Appendix A). Figures for fences are based on available data and may be lower than actual figures. These figures are broken out by allotment as follows:

Table 4.2.2 Existing Range Improvements by Allotment

Allotment	**Miles allotment fence**	**Miles pasture fence**	**# Water troughs/ reservoirs**	**Miles pipeline**	**Miles road**
Inside Desert	125.5	88	65	96	233
Juniper Butte	25.5	12	13	21	50
Poison Butte	70	74	71	67	114
Yahoo	31	21	12	11	85
Total	**252**	**195**	**161**	**195**	**482**

5.0 SPECIES ACCOUNT

5.1 DISCRIPTION OF SLICKSPOT PEPPERGRASS (*LEPIDIUM PAPILLIFERUM*)

5.1.1 Status

Slickspot peppergrass (*Lepidium papilliferum*) was proposed for listing in the Federal Register as an endangered species on July 15, 2002 (Fish & Wildlife Service 2002).

5.1.2 Biology

Slickspot peppergrass (*Lepidium papilliferum*) is annual, or occasionally biennial, mustard which is endemic to the sagebrush-steppe ecosystem of southwestern Idaho (Mancuso and Cooke 2001). Stems are one to several, simple to freely branched, usually forming rounded clumps to 4 dm (Hitchcock et al 1984). Basal leaves are pinnate to pinnatifid with mostly toothed to incised pinnae; cauline leaves are reduced, the upper ones usually entire, not auriculate. The four-pet aled flowers are arranged in many flowered racemes 2-4 cm long. The pedicels are nearly teret, rather slender, sub-equal to the fruit. Sepals are 1-2 mm long, pet als are white, 3-4 mm longs, and stamens are 6, the filaments bearded. The fruit are ovate to ovate-elliptic 2.5-3 mm long glabrous silicles which have a very narrowly winged upturned margin and a shallowly emarginated tip. Similar to *L. montanum*, but slickspot peppergrass is densely papillose-puberulent, the hairs appearing somewhat flattened and the filaments are densely bearded with papillose-puberulent hairs. Slickspot peppergrass usually forms rounded clumps to 4 dm and ovate to ovate-elliptic 2.5-3 mm long glabrous silicles have a very narrowly winged upturned margin. Slickspot peppergrass does not reproduce vegetatively, appears to be limited in its ability to self-pollinate (Meyer 1993), and does not appear to outcross via wind pollination. Insect pollination is critical for production of viable seed (Robertson 2002). Robertson (2001) identified nine families of insects as potential pollinators for slickspot peppergrass: bees, wasps, ants, flies, beetles, butterflies, moths, and true bugs.

5.1.3 Current Conditions

5.1.3.1 Range-Wide

The majority of occurrences of slickspot peppergrass are found on the western Snake River Plain and adjacent northern foothills in Payette, Gem, Canyon, Ada, and Elmore counties, an area approximately 90 miles long and 25 miles wide. A disjunct meta-population (Inside Desert) is also known from the Owyhee Plateau of Owyhee County, approximately 50 miles south of the Snake River Plain. Biologists have documented 70 occurrences of slickspot peppergrass, but only six of these areas are considered of high quality (FWS pers. comm. 2002). The species is no longer found in 18 historic occurrences. These occurrences are grouped into six populations. The Inside Desert meta-population is the only population which occurs in the JFO. It is comprised of 23 elemental occurrences (EO), approximately one-third of the global EOs.

This species is restricted to small-scale, sparsely vegetated, visually distinct, edaphically-determined openings within the sagebrush matrix. These microsite openings are commonly called slickspots and are characterized by high levels of clay or salt as well as higher soil water retention than surrounding areas (Fisher et al 1996). Slickspots range in size from a square meter to several hundred square meters. Most occupied slickspots occur on flat to gently sloping terrain, although occurrences have been found on steep slopes and on all aspects. Slopes with occurrences of slickspot peppergrass are relatively smooth. The volcanic plains occurrences are

underlain by Tertiary basalt or rhyolite, while Pliocene/Quaternary lacustrine deposits underlie the sites in adjacent foothills. Most populations occur between 2200 to 3400 feet, with disjunct populations occurring at much higher elevations (up to 5400 feet in Owyhee County [Popovich 2001]). Typically, the habitat with vigorous slickspot peppergrass populations is Wyoming big sagebrush ecosites that have not been recently burned, are not heavily grazed, have an understory of native bunchgrasses, and have a well-developed microbiotic crust. However, Popovich (2001) found plant numbers in recent, unseeded burns with low trampling impacts approximately equal to numbers in native range site, possibly due to the release of nutrients after the burn.

Most sagebrush-steppe habitat that has not been converted to cropland in southwestern Idaho has been degraded by wildfire, livestock grazing and trampling, the invasion of non-native plant species, and off-road vehicle use; these factors continue to threaten all remaining habitat for slickspot peppergrass (LEPA Tech Team 2002, Moseley 1994, Mancuso and Moseley 1998; ICDC 1999; Mancuso 2000). The conversion of the original sagebrush habitat to annual grasslands and nonnative perennial grasslands has reduced suitable remaining habitat for, and destroyed some slickspot peppergrass, in addition to fragmenting and isolating extant occurrences (Moseley 1994). Subsequent increased frequency of fire, and the associated invasion of weedy annual plants, are serious range wide threats to the long-term integrity of slickspot peppergrass habitat and population viability (M. Mancuso 1998).

Range wide, there are 70 extant occurrences of slickspot peppergrass (CDC 2002). Occurrence Viability rankings have been made on 55 of these occurrences. Fifteen occurrences were not ranked due to lack of data (FWS 2002, M. Mancuso, pers. comm., 2002). The Occurrence Viability rank is used to determine the expected persistence of a population in a particular location (Mancuso, et al 1998). Factors considered during Occurrence Viability ranking include fire history, post-fire rehabilitation efforts, condition of the surrounding landscape, habitat fragmentation, threats such as urban development, weed invasion, and heavy livestock use, and the extent of suitable habitat (Mancuso, et al 1998). Other factors related to defensibility of an occurrence were fire protection, ownership, manageability, special management protection, and ease of access or other potential land disturbing activities (Mancuso, et al 1998). Rankings range from A (highest) to D (lowest). An A-ranked occurrence has relatively high viability and reflects good quality sites with minimum of serious and imminent threats (Mancuso, et al 1998). B- to D-ranked occurrences reflect habitat that is progressively more disturbed, threatened, and difficult to protect. Occurrence Viability rankings on 55 occurrences in 2001 resulted in 6 A-ranked occurrences, 9 B-ranked, 20 C-ranked, 1 C/D-ranked, and 17 D-ranked (CDC 2002).

HII Data Range Wide

The Idaho Conservation Data Center (CDC) collaborated with the Idaho Army National Guard (IDANG) and Bureau of Land Management to develop a Habitat Integrity Index (HII) to assess conditions and monitor the range wide ecological integrity of slickspot peppergrass habitat (Mancuso and Mosely 1998). Baseline indices and associated monitoring data were collected at most occurrences located on public land in 1998 (Mancuso et al. 1998). In 1999, a second year of sampling was completed and several additional monitoring transects were established in the Inside Desert area (Mancuso 2000). Most transects were sampled again in 2000 (Mancuso 2001). A fourth consecutive year of monitoring information was collected in 2001 (Mancuso

2002). Monitoring results from the past four years shows habitat improvement is limited to a few sites. The range-wide pattern has been a slow but steady decline, affecting a few occurrences each year. For all HII transects monitored between 1998 and 2001, the majority of attributes were stable or did not reveal a consistent trend.

HII monitoring of slickspot peppergrass presently includes 48 transects located at 38 occurrences within the 6 known populations in slickspot peppergrass's range. HII data collection focused on three types of disturbance – wildfire, livestock grazing, and off-road motorized vehicle use. These disturbances are widespread and known to impact slickspot peppergrass habitat at both the microsite and the landscape scales. Forty-three transects are still being monitored and possess three or more years of monitoring data to determine trend with. Eight transects had one or more attributes with an improving trend; while 14 transects had one or more attributes with a declining trend. Most trends concerned slickspot microsite attributes as opposed to sagebrush-steppe attributes. For all transects, the majority of attributes were stable or did not reveal a consistent trend. Microsites at six transects showed an overall improving trend in slickspot integrity, while 11 had an overall stable trend, and 14 an overall declining trend. Sagebrush-steppe had an overall improving trend at three transects, an overall stable trend at 16 transects, and an overall declining trend at 5 transects.

Table 5.1.1 HII Overall Trend Rangewide by Meta-population.

Attributes	**Overall Trend**			
	Improving	Stable	Declining	No Trend
Boise/Eagle Foothills Area				
Microsite	0	2	3	1
Sagebrush-Steppe	0	3	2	1
Kuna/Boise Area				
Microsite	2	1	5	2
Sagebrush-Steppe	1	2	2	5
Orchard Area				
Microsite	1	7	1	5
Sagebrush-Steppe	1	9	1	3
Mt Home/Glenns Ferry Area				
Microsite	2	1	2	3
Sagebrush-Steppe	1	2	0	5
Inside Desert Area*				
Microsite	1	0	3	0
Sagebrush-Steppe	0	0	0	4
Total				
Microsite	6	11	14	11
Sagebrush-Steppe	3	16	5	18

*Jarbidge Field Office Area slickspot peppergrass population.

After any one monitoring season conditions do not differ greatly to the next year. However, the ongoing cumulative affects of occasional fires, habitat fragmentation, increases in cheatgrass abundance, etc., all contribute to the decline of this species.

5.1.3.2 Analysis Area

In the Jarbidge Field Office Area, slickspot soil inclusions, which may support slickspot peppergrass, are interspersed over throughout 472,567 acres of total habitat. About 78% of these potential acres occur on land managed by BLM. Slickspot inclusions occupy 5-25% of the potential acres, however, this entire acreage is considered potential habitat since individual slickspots have not been delineated and the decline of slickspot peppergrass has been linked to a decline in the quality of the surrounding habitat (Mancuso 1994). There are approximately 365,130 potential habitat acres on land managed by BLM in the field office, 50,514 acres are of suitable habitat – unknown but expected to support slickspot peppergrass, and extant occurrences are found within a 30,518-acre area of occupied habitat. Surveys on the adjacent Juniper Butte Range in 2002 found that approximately 4% of all slickspots were occupied (US Air Force 2002). Popovich (2002) estimated that 1-3% of slickspots of the Inside Desert Population occurring on BLM lands have aboveground expression of slickspot peppergrass in a given year. Potential habitat acreage was determined by subtracting unsuitable ecological sites and elevations from soil mapping units with slickspot inclusions (USDA SCS 1998, 1991, unpubl.). Suitable habitat was delineated by an interdisciplinary team based on professional knowledge of the species, its habitat, and the resource area.

Potential slickspot peppergrass habitat in the Analysis Area is approximately 90,000 BLM acres (33% of Analysis Area; 25% of BLM managed potential JFO habitat). There are also approximately 41,750 acres which are considered suitable and approximately 28,845 acres considered occupied in the Analysis Area which occur in three allotments: Inside Desert, Juniper Butte, and Poison Butte. No occupied or suitable habitat occurs in the Yahoo Allotment. Eighty-three percent of the BLM managed suitable habitat in the Jarbidge Field Office occurs in the Analysis Area. Ninety-five percent of the BLM managed occupied habitat in the Jarbidge Field Office occurs in the Analysis Area (Figure 1; see Appendix A).

Since 1999, one-time surveys for slickspot peppergrass have been completed on 144,418 acres in the Jarbidge Field Office Area, the majority of which (139,429) acres were intensive surveys. Not all surveys were conducted on what is now considered potential habitat. In the Analysis Area, 27,702 acres (22%) of potential BLM habitat has been surveyed, all of which were intensive surveys. Surveys included intensively driving and walking areas pre-selected by BLM as high priority (Popovich 2000). In 1999, 2000, and 2001, methodology for surveys on 3980 acres was as follows: along a driven travel route, a stop was made every 0.5 miles. Stops were made closer (0.1 to 0.25 miles apart) in perceived good quality habitat. At each stop, a 0.25 mile transect was walked on each side of the road perpendicular to it. A 100-foot wide turn around was made and walked back to the start point. A meandering transect was used, zigzagging between areas of slickspot concentration. Areas containing high concentrations of slickspots were more exhaustively searched. Surveys in 2002 on 52,626 acres used ATVS to search in four, equidistant transects per legal section (Popovich 2002). Other surveys on 82,825 acres were conducted by focusing on unburned sagebrush habitat in the Bruneau Desert area (Mancuso

and Cooke 2001). Transects were walked or an area was intuitively surveyed, stopping at slickspot microsites to search for slickspot peppergrass plants. BLM staff completed additional low intensity road surveys in June 2001 along 285 miles of road and walking surveys on 4990 acres within the Field Office Area.

Over 1300 occupied slickspots have been found scattered throughout an approximately 41,501-acre portion of the Field Office Area, not including the Juniper Ranch withdrawal area. There are 23 CDC occurrences within six allotments of the Jarbidge Field Office Area (CDC 2002). Seventeen occurrences are located in the Analysis Area. By allotment, occupied and potential habitat acreage in the Analysis Area is as follows (see Appendix A):

Table 5.1.2 Analysis Area Slickspot Peppergrass Occurrences, Suitable and Occupied Acres by Allotment.

Allotment	Number of Occurrences	Occupied Acres	% Allotment with Occupied Habitat	Suitable Habitat Acres	% Allotment with Suitable Habitat
Inside Desert	10	23,322	20%	13,053	11%
Juniper Butte	3	2244	11%	12,947	65%
Poison Butte	4	5201	6%	18,273	22%
Analysis Area Total	**17**	**30,767**	**15%**	**44,273**	**22%**

To date, 11 JRA occurrences have been ranked by the CDC (CDC 2002). Of the 17 locations in the Analysis Area, only 9 have received an Occurrence Viability rank. Two additional ranked occurrences in the JFO area, but outside of the Analysis Area, were given a B rank or a C/D rank. Based on the existing information, Cooke (pers. comm. 2002) expected that the Jarbidge population would receive an overall Occurrence Viability ranking of C. A C-rank indicates a generally fair to low-quality habitat which may be highly disturbed and may not be expected to remain viable (Mosley 1994).

Table 5.1.3 Occurrence Viability Rankings of Analysis Area Slickspot Peppergrass Element Occurrences by Allotment.

Allotment	Number of A-Ranked Occurrences	Number of B-Ranked Occurrences	Number of C-Ranked Occurrences	Number of D-Ranked Occurrences
Inside Desert	0	2*	1	0
Juniper Butte	0	1	2	0
Poison Butte	0	0	2	1
Analysis Area Total	**0**	**3**	**5**	**1**

* Ranked as B/C.

Data shows that in the past 22 years (1980 to 2002), 29,043 acres (70%) of the occupied habitat has burned at least one time. Some areas have burned up to four times as shown in the following table:

Table 5.1.4 Occupied and Suitable Slickspot Peppergrass Habitat Burned in JFO.

Number of Times Burned	Acres Occupied Habitat Burned	Percent Occupied Habitat Burned	Acres Suitable Habitat Burned	Percent Suitable Habitat Burned
One	17,708	43%	24,096	44%
Two	9,427	23%	6,272	12%
Three	1,890	5%	216	0.3%
Four	19	<0.1%	22	<0.1%
Five	0	0%	26	<0.1%
Total	**29,043**	**70%**	**30,632**	**56%**

From 1995 through 2001, 43,371 acres (8%) of potential slickspot habitat have been drill seeded; 8,174 acres (15%) of suitable habitat have been drill seeded, and 9,290 acres (22%) of occupied habitat have been drill seeded.

In the Analysis Area, 3,788 acres (20%) of potential slickspot habitat have been drill seeded; 5,371 acres (13%) of suitable habitat have been drill seeded, and 7,800 acres (27%) of occupied habitat have been drill seeded. Suitable and occupied drill seed acres are broken down by allotment as follows:

Inside Desert (Poison Creek East)

Table 5.1.5 Occupied and Suitable Slickspot Peppergrass Habitat Drill Seeded in the Inside Desert Allotment.

Year Drill Seeded	Acres Occupied Habitat Drill Seeded	Percent Occupied Habitat Drill Seeded	Acres Suitable Habitat Drill Seeded	Percent Suitable Habitat Drill Seeded
1995	1,080	5%	2,353	20%
1996	4,902	22%	115	1%
Total	**5,982**	**27%**	**2,468**	**21%**

Table 5.1.6 Occupied and Suitable Slickspot Peppergrass Habitat Burned in the Inside Desert Allotment.

Number of Times Burned	Acres Occupied Habitat Burned	Percent Occupied Habitat Burned	Acres Suitable Habitat Burned	Percent Suitable Habitat Burned
One	9,924	45%	5,196	43%

Two	8,980	39%	2,407	20%
Three	1,863	8%	131	1%
Four	18	0%	22	0%
Five	0	0%	26	0%
Total	**20,785**	**94%**	**7,782**	**65%**

Juniper Butte

In 1995, 585 acres of suitable habitat (5%) were drill seeded in the Juniper Butte Allotment. No occupied habitat was drill seeded.

Table5.1.7 Occupied and Suitable Slickspot Peppergrass Habitat Burned in the Juniper Butte Allotment.

Number of Times Burned	Acres Occupied Habitat Burned	Percent Occupied Habitat Burned	Acres Suitable Habitat Burned	Percent Suitable Habitat Burned
One	1,472	67%	5,192	43%
Two	156	7%	1,587	13%
Three	0	0%	85	1%
Total	1,628	74%	6,864	56%

Poison Butte (Poison Creek West)

Table 5.1.8 Occupied and Suitable Slickspot Peppergrass Habitat Burned in the Poison Butte Allotment.

Allotment/Number of Times Burned	Acres Occupied Habitat Burned	Percent Occupied Habitat Burned	Acres Suitable Habitat Burned	Percent Suitable Habitat Burned
One	3,809	84%	9,750	55%
Two	93	2%	1,503	9%
Total	**3,902**	**86%**	**11,253**	**64%**

Table 5.1.9 Occupied and Suitable Slickspot Peppergrass Habitat Drill Seeded in the Poison Butte Allotment.

Allotment/ Year Drill Seeded	Acres Occupied Habitat Drill Seeded	Percent Occupied Habitat Drill Seeded	Acres Suitable Habitat Drill Seeded	Percent Suitable Habitat Drill Seeded
1995	2	0%	1,990	11%
1996	1,816	40%	328	2%
Total	**1,818**	**40%**	**2,318**	**13%**

HII Data Analysis Area

In the BLM Jarbidge Field Office Area, six HII transects were monitored (Mancuso 2002) all within the Inside Desert population. Of the six transects, 5 are located in the Analysis Area. One transect (#707) had an improving trend regarding slickspot integrity, while three transects (#701, 702, and 709) had an overall declining trend of slickspot microsite integrity. The start of these three transects were located within $1\backslash 10^{th}$ of a mile from a fence and may not truly represent the affects of livestock grazing due to concentration of livestock along fences. At one HII transect, post-fire restoration activities have more or less destroyed all the slickspots in the occurrence area.

Inside Desert

The Post Office Reservoir HII transect (#701) monitored in the Rocky Draw Pasture of this allotment shows slickspot microsite trends of increasing organic debris deposition, weed invasion, and livestock disturbance sign. A higher total microsite attribute score each year suggests an overall declining trend of slickspot integrity. The Juniper Butte West HII transect (#709) located in the North Well pasture shows slickspot microsite trends of increasing organic debris deposition, weed invasion, and livestock disturbance sign.

Juniper Butte
Two HII transects were monitored in the Juniper Butte Allotment. Data from the Three Creek Well transect (#702) located in the Mosquito Lake Butte pasture shows trends of increased slickspot boundary compromise and livestock disturbance sign. A higher total microsite attribute score each year suggests an overall declining trend of slickspot integrity. Data from the Juniper Butte South transect (#707) located in the Mosquito Lake Field pasture shows an improving trend regarding slickspot boundary compromise.

Poison Butte
The Poison Creek North HII transect (#708) is located in the Salt Bush pasture of the Poison Butte Allotment. Post-fire restoration actions have more or less destroyed all the slickspots in this occurrence area.

Table 5.1.10 2001 Grazing Authorizations – Analysis Area Pastures with HII Transects.

Pasture, Allotment	**HII Transect #**	**2001 Season of Use**	**AUMs**
Rocky Draw, Inside Desert	701	4/17 – 5/18 9/2 – 9/14	897 104
Mosquito Lake Butte, Juniper Butte	702	5/6 – 6/1	333
Mosquito Lake Field, Juniper Butte	707	4/1-5/31/01 11/19-12/23/01	602 460
Salt Bush, Poison Butte	708	3/23-5/02/01 6/3-6/11/01 10/30/01-1/11/02	346 188 1125
North Well, Inside Desert	709	3/24 – 4/4 5/5-6/17	157 247

Trend Data Analysis Area
Baseline range trend data was originally collected in 1980. The majority of the baseline data was collected from aerial photos rather than field visits. It showed the majority of the Resource Area was in poor condition range (approximately 75-80%). Range condition trend data has been collected in the following Analysis Area allotments:

Inside Desert
A number of transects were located in this allotment. In native range on Wyoming big sagebrush/bluebunch wheatgrass ecological sites, four transects was in static to upward trend, four transects were in static trend, and one was in static to downward trend. In burned native range on Wyoming big sagebrush/bluebunch wheatgrass ecological sites one transect was in static trend and one was in static to downward trend. One transect on burned native range on a Wyoming big sagebrush/western wheatgrass ecological site was in a downward trend. In seeded range on Wyoming big sagebrush/Thurber needlegrass ecological sites, three transects were in upward trend and one was in static trend. Another transect in this ecological site was in a static to downward trend. A transect in a failed seeding on Wyoming big sagebrush/bluebunch wheatgrass ecological site was in

static to downward trend. A final transect in this allotment was located on seeded/burned native range on Wyoming big sagebrush/bluebunch wheatgrass ecological site was in static to upward trend. Trend Data for this allotment is summarized as follows:

Table 5.1.11 Inside Desert Allotment Trend Data by Transect and Ecological Site.

	# Transects by Trend				
Ecological Site	**Upward**	**Upward-Static**	**Static**	**Static-Downward**	**Downward**
Wyoming big sagebrush/bluebunch wheatgrass	0	4	4	1	0
Burned Wyoming big sagebrush/bluebunch wheatgrass	0	0	1	1	0
Burned Wyoming big sagebrush/western wheatgrass	0	0	0	0	1
Wyoming big sagebrush/Thurber needlegrass	3	0	1	0	1
Failed seeding	0	0	0	1	0
Seeded/burned	0	1	0	0	0
Total	**3**	**5**	**6**	**3**	**2**

Poison Butte

Five transects located in poor condition native range on Wyoming big sagebrush/ bluebunch wheatgrass and Wyoming big sagebrush/Thurber needlegrass ecological sites had static trends. One transect located in poor condition native range on a Wyoming big sagebrush/ bluebunch ecological site had static to upward trend, while another had static to downward trend. A transect located in poor condition native range on a Wyoming big sagebrush/Sandberg bluegrass ecological site was in an upward trend. A final transect located on a low sagebrush/Idaho fescue ecological site was in a downward trend.

Table 5.1.12 Poison Butte Allotment Trend Data by Transect and Ecological Site.					
	# Transects by Trend				
Ecological Site	**Upward**	**Upward-Static**	**Static**	**Static-Downward**	**Downward**
Wyoming big sagebrush/bluebunch wheatgrass	0	1	4	1	0
Wyoming big sagebrush/Thurber needlegrass	0	0	1	0	0
Wyoming big sagebrush/Sandberg bluegrass	1	0	0	0	0
Low sagebrush/Idaho Fescue	0	0	0	0	1
Total	**1**	**1**	**5**	**1**	**1**

To summarize, twenty-six vegetation trend transects are located in two allotments in the Analysis Area. Of these, four are in an upward trend, six are in static to upward trend, ten are static, four are in static to downward trend, and two are in a downward trend.

Precipitation Data Analysis Area

The BLM Jarbidge Field Office has five precipitation monitoring gauges located in or near the Analysis Area. Data is collected yearly on a quarterly in October, January, April, and July. Expected mean annual precipitation is based on NRCS soils descriptions (USDA SCS 1991, 1998, unpublished data). Data is summarized as follows:

Table 5.1.13 Analysis Area Precipitation Data – Ten-Year Average.			
Gauge	**Ten Year Average (1993-2002)**	**Expected Mean Annual Precipitation**	**Location/Allotment**
Murphy A/F	15.1”	11-13”	Poison Butte
Three Creek School	13.5”	13-15”	East of Inside Desert
Three Creek Well	10.3”	11-13”	Juniper Butte/Inside Desert
The Big Hill*	8.8”	9”	Between Yahoo/Kubic and Hallelujah
*Ten-year average based on data collected from 1995 through 2002.			

5.1.3.3 Cumulative Affects of State and Private Actions in the Analysis Area

Military, State, and private lands occur in the potential, suitable, and occupied habitat. The primary use of these lands is livestock grazing. Activities such as road construction, soil and gravel leasing, and development pose threats to *L. papilliferum* in these areas.

5.2 BALD EAGLE (*Haliaeetus leucocephalus*)

Mature bald eagles have the distinctive yellow bill, white head and tail with a dark brown to black body (Johnsgard 1990). Immature bald eagles are dark in color and can be confused with golden eagles. Bald eagles are large raptors with a body size ranging from 31 to 37 inches (75-94 cm) in length. Females are a larger than males (Johnsgard 1990).

5.2.1 Status

Bald eagles were first protected under the Endangered Species Preservation Act in 1966 and the continental United States population was subsequently listed as Endangered by the Fish & Wildlife Service in 1973 under the Endangered Species Act (Fish & Wildlife Service 1995a). In 1995 the status of the bald eagle was changed from Endangered to Threatened (Fish & Wildlife Service 1995a).

5.2.2 Biology

Courtship varies with location and has been observed in the fall, winter and spring (Harmata 1989). Two eggs are laid in large stick nests from March into April (Harmata 1989). Bald eagles incubate their eggs about 5 weeks and the young fledge after 11 - 14 weeks (Johnsgard (1990). Home ranges of nesting bald eagles in the Cascade Reservoir area varied from 15 to 60 km^2 during the breeding period (Groves et al. 1997). Bald eagles usually do not breed until their fifth or sixth year. Adult female bald eagles may not lay eggs every year (Groves et al. 1997). Bald eagles are known to forage and roost communally in areas of carrion or prey abundance (Keister et al. 1987, Crenshaw and McClelland 1989). Diets of bald eagles are known to include fish, waterfowl, small mammals, and carrion (Lingle and Krapu 1986, Isaacs and Anthony 1987, Keister et al. 1987, Johnsgard 1990, Peterson 1986). Peterson (1986) mentioned that bald eagles prey is determined largely by availability. No nests or winter communal roost areas are known to occur in the Jarbidge Field Office area.

5.2.3 Current Conditions

5.2.3.1 Range Wide

Bald Eagles range from Alaska (where they are not listed as a threatened or endangered species) across Canada and southward along both the coasts to California and Florida. In Idaho, bald eagles have been documented to nest along the Boise River, Payette River, and portions of the Snake River in eastern Idaho. The general trend across Idaho has been for increasing numbers of bald eagles (Steenhof, unpublished data). Wintering bald eagle numbers seem to have peaked in Idaho in January 1994 (925 eagles observed during the official count) more than double the number counted in 1979 (404). Wintering bald eagle numbers had dropped to 698 in January 1997 (Steenhof unpublished data) which was attributed to flooding in north Idaho during the count period. The number of bald eagle nesting territories has increased from 11 to 104 from 1979 to 1996 of which 90 were occupied (Beals and Melquist 1996).

5.2.3.2 Analysis Area

No bald eagles are known to nest in the Jarbidge Field Office area (Beals and Melquist 1996). For the most part the Snake River corridor lacks trees of adequate size for nesting bald eagles. Large trees, suitable for nesting, in the area are associated with private land. A pair of bald eagles nested near Twin Falls in 1996 in the Snake River Canyon. The next nearest known nesting area is along the Boise River in the general vicinity of Anderson Ranch Dam. This bald eagle nest was about 26 miles from the analysis area.

Bald eagles are known to winter along the Snake River in southern Idaho. Numbers of bald eagles wintering along the Snake River between C.J. Strike Reservoir and Bliss vary. Bald eagle numbers are high (12) during winters when the only open water is the Snake River, whereas, during mild winters bald eagle counts are low (0 to 5 eagles) (BLM unpublished data). Bald eagles from the Snake River cross the Jarbidge Field Office Area to other wintering areas in Nevada or Utah. No bald eagle communal winter roost sites have been documented; however, single or up to 3 wintering eagles are regularly seen across from the mouth of Clover Creek near King Hill and near Glenns Ferry.

Cottonwood trees are generally not present along the middle reach of Snake River. For much of this area, the canyon is too narrow and the substrate on BLM lands along the shore is generally dominated by boulder and cobbles. It is unlikely that there was a cottonwood gallery riparian zone in this area historically. The dominant trees on islands in the Snake River were peachleaf willow and some Russian olive. Peachleaf willow and Russian olive are present on private land just north of the Yahoo Allotment. Wintering bald eagles are present in the Hagerman Wildlife Management Area about 2.0 miles from the Yahoo Allotment. A few Russian olive trees in the Yahoo Allotment could potentially be used for roosting by wintering eagles. The Kubic Allotment is vegetated by crested wheatgrass seedings and native sagebrush steppe for the most part. It lacks vegetation or rock ledges that could potentially be used by roosting bald eagles.

In the analysis area for the action being consulted on, the Yahoo and Kubic Allotments are used by wintering bald eagles as occasional foraging areas. Although wintering bald eagles are present in the analysis area, no winter communal roosts or nesting occurs in the area. Because of this bald eagles are not believed to be affected directly by grazing livestock.

5.3 BLISS RAPIDS SNAIL (*Taylorconcha serpenticola*)

Bliss Rapids snails are small 2.0 to 2.5 mm (0.1 inches) in height with 3 whorls (Taylor 1982). Two color variations have been described a “pale” form and an “orange” form (Fish & Wildl. Serv. 1995b).

5.3.1 Status

Bliss Rapids snails were listed as Threatened by the Fish & Wildlife Service in 1992.

5.3.2 Biology

Taylor (1985) hypothesized that Bliss Rapids snails feed on organic film on cobbles and boulders in moderate current. Taylor (1985) noted that this species is found only on the undersides of rocks, which believed to be a photosensitive response to light (Bowler 1990). Bliss Rapids snails

forage on perilithon on upper rock surfaces at night (Fish Wildl. Serv. 1992). In the main stem of the Snake River, Bliss Rapids snails reproduce in October to February, but delay breeding in spring habitats from February through May (Fish Wildl. Serv. 1992). Egg laying occurs within 2 months and the eggs hatch within a month (Fish Wildl. Serv. 1992). Bliss Rapids snails live, primarily on boulders and cobbles, in swift current (Taylor 1982). Boulder bars below rapids and rapids/edge environments flanking the shore (Fish Wildl. Serv. 1992) were described as good habitat. This species has been found in water as shallow as 1 cm as long as water temperature and dissolved oxygen levels were adequate (Fish Wildl. Serv. 1995b) Cazier and Myers (1996) documented Bliss Rapids snails in white water, eddy, edge-water, and run habitats. Bliss Rapids snails occupied irregular substrates with and without vegetation (Cazier and Myers 1996). Cazier and Myers (1996) commented that the Bliss Rapids snail appeared to be more common then believed during the listing effort.

5.3.3 Current Conditions

5.3.3.1 Range-Wide

Taylor (1982) commented that the Bliss Rapids snail is a relict survivor from old Lake Idaho in southwestern Idaho about 3.5 million years ago. Historically, Bliss Rapids snails were present from Indian Cove Bridge and upstream past Twin Falls (Fish Wildl. Serv. 1992). A disjunct population was found near some springs near American Falls Reservoir (Fish & Wildl. Serv. 1995b).

Presently, the Bliss Rapids snail is known to occur sporadically in the Snake River from the mouth of Clover Creek near King Hill upstream to below Lower Salmon Falls Dam as well as Box Canyon (Taylor 1982, Taylor 1985). Idaho Power has been conducting inventory for this species as part of renewing their licenses for dams to generate electric power on the Snake River. BLM does not have access to this data.

5.3.3.2 Analysis Area

The only allotment in the analysis area for consultation in close proximity to the Snake River is the Yahoo Allotment. The allotment lies about 0.5 miles (overland) or 1.16 miles along Yahoo Creek from the Snake River. Of the nearly 13,800 acres in Yahoo Allotment, there are about 10,075 acres within the Yahoo Watershed. The remainder of the Yahoo Allotment lies in the Tuana Watershed. Yahoo Creek originates at Coyote Springs on BLM land and flows about 4.2 miles to the Snake River. BLM manages the adjoining uplands on 1.5 miles of Yahoo Creek. The rest of its length is a mixture of State, Hagerman Fossil Beds National Monument and private ownership. Livestock from this allotment do not have access to the Snake River. In addition to Yahoo Creek two other water sources are present in the Coyote Springs pasture. A spring (T08S, R13E, Section 15 SWSE) in the eastern portion of the allotment and pond (T08S, R13E Section 7 SENW) are other sources of water in the Coyote Springs Pasture. During irrigation season livestock can drink out of the Magic Waters Canal in the southern and south-eastern part of the Yahoo Allotment. According to the permit holder, livestock tend to use the southern portion of Coyote Springs Pasture, because of the OHV use in the northern part of this pasture.

The primary impact to the Yahoo watershed in the analysis area is off highway vehicle (OHV) use (Figures 5.3.1 and 5.3.2). The RMP (Bureau of Land Management 1987) designated all of MUA-9 (2,901 acres) as the Hagerman ORV area, to be managed for its recreational and off-road vehicle values. Based upon examination of 1992 aerial photographs and a comparison of trails mapped with a global positioning system (GPS), OHV use in the area has increased substantially since 1976. Presently, there are about 24.5 miles of trails for motorized vehicles and several intense use/hill climb areas that total 244 acres (Appendix B). A number of trails are situated in the bottom of draws and up steep hillsides. The trail system expanded since the East Slick Fire in 1999, which burned the basin big sagebrush. This tall shrub previously kept some areas from receiving much OHV use. Yahoo Creek is crossed in three places by OHV trails. At the crossing points the channel is more than 4 time wider than areas protected by woody vegetation. About 6 miles of gravel road are present at the southern border of MUA-9. OHV use is greater in the afternoon and weekends.

Figure 5.3.1 Hill climb area in Hagerman ORV site adjacent to Yahoo Creek in the Yahoo Allotment.

Figure 5.3.2 Off road vehicle crossing point along Yahoo Creek (T08S, R13E, Section 10 NWNW).

About 3,450 acres of the Kubic Allotment lie within the Yahoo Creek watershed. An additional 1,070 acres are private farm land are also present south of the Yahoo Allotment. No water is present in the upper part of the Yahoo watershed. Yahoo Creek in this area is ephemeral and is vegetated with upland species.

BLM does not monitor water quality in the Snake River. In Yahoo Creek the average maximum water temperature has exceeded 20^{O}C in July during the years monitored (1994 - 1997). Water temperature data were collected at three hour intervals using HoboTemp® submersible hydrothermographs from early June through September in all years. BLM has not collected water temperature since 1997. Water quality was tested for the following in June 1998: Nitrate = 1.5 mg/l; total P = 0.06 mg/l; fecal coliform bacteria = 40 cfu/100 ml. In May of 1997 water quality values were: Nitrate = 2.0 mg/l, total P = 0.17 mg/l, and fecal coliform bacteria was 100 cfu/100 ml. Analyses were completed by Magic Valley Labs, Inc. in Twin Falls. Yahoo Creek is vegetated with a Russian olive overstory on the lower reach with a grass understory. In the upper reach near Coyote Springs the vegetation includes willow, cattail, bulrush, and a variety of other aquatic species. Water flows have likely increased from agricultural irrigation on private land in the Magic Waters area. At times overflow from agricultural lands runs down draws into Yahoo Creek.

5.4 BULL TROUT (*Salvelinus confluentus*)

Bull trout have an elongate body, with the head rather long with a blunt snout. The mouth is large with well developed teeth on the jaw and head of the vomer (Simpson and Wallace 1982). The dorsal fin and tail fin are plain. The overall color is olive green to brown with pale orange to red spots on the side (Simpson and Wallace 1982) with a pale to whitish belly. The anal, pelvic and pectoral fins have a white leading margin (Simpson and Wallace 1982).

5.4.1 Status

Bull trout were emergency listed in 1998 as Endangered (Fish & Wildlife Service 1998) and reclassified as a Threatened species in 1999 (Fish & Wildlife Service 1999).

5.4.2 Biology

Simpson and Wallace (1982) wrote that bull trout have a slow growth rate under favorable conditions and become sexually mature in 4-5 years. Females produce 1,000 to 1,200 eggs per pound of body weight (Simpson and Wallace 1982). Spawning in bull trout occurs in September and October (Simpson and Wallace 1982). Rieman and McIntyre (1993) state there are two distinct life-history forms throughout the range of the bull trout. Resident forms remain in the natal streams, whereas, the migratory forms rear in natal tributaries before moving to larger rivers (fluvial form) (Rieman and McIntyre 1993).

Bull trout use all forms of cover in their habitat - in stream wood, substrate and cut banks (Rieman and McIntyre 1993). In addition to large woody debris, cobble and larger rock, and pocket pools formed around boulders are important sources of cover for juvenile and resident bull trout in headwater streams (Rieman and McIntyre 1993). Bull trout are believed to reach maturity in 5 to 7 years (Rieman and McIntyre 1993). It is believed bull trout may spawn yearly or in some instances on alternate years (Rieman and McIntyre 1993). Spawning occurs in pools with gravel substrates. Gravel is important to the successful aeration of incubating eggs as well as the emergence and survival of fry.

Water temperature also appears to play a crucial role in incubation of bull trout eggs with the optimum temperatures between 2 - 4^{O}C (Rieman and McIntyre 1993) in British Columbia. Optimum temperature in rearing habitat is believed to be 7 - 8^{O}C (Rieman and McIntyre 1993) in Oregon and northern Idaho.

Warren and Partridge (1993) believed that both resident and fluvial forms were in the Jarbidge River drainage. Data from Nevada tend to support that both resident and fluvial forms of bull trout are present in the Jarbidge River. The Nevada record for a bull trout is 550 mm (G.L. Johnson - pers. comm.) indicating that at least portions of the bull trout in the watershed have a migratory or fluvial life form. The majority of the bull trout documented in headwaters areas are much smaller ranging in size from 36 mm to 266 mm and averaging between 132 mm in 1985 to 155 mm in 1993 (Johnson 1990, Johnson and Weller 1994). The lower portions of the West Fork and East Fork of the Jarbidge Rivers appear to function primarily as nodal or migratory habitat during times when water temperatures are colder (Johnson and Weller 1994) during the fall through spring. Johnson and Weller (1994) considered the cold-water tributaries to both the East Fork and West Fork Jarbidge as focal habitat occupied by resident fish and summer refugia

for fluvial bull trout. Johnson and Weller (1994) reported that conditions common to locations where bull trout were sampled included: cold water temperature (40-51^{O}F [4.4 to 10.5^{O}C]), elevation above 7,200 feet, and at least 1 cfs of water. Water temperatures are comparable to areas with young bull trout in Montana (Fraley and Shepard 1989) and Oregon. Bull trout were observed on redds in Dave Creek at an elevation of 6800 feet in early September 2001 (BLM unpublished data). Bull trout were also observed at an elevation of about 6200 feet at the same time, although no redds were observed.

In nodal or migratory habitat Zoellick et al. (1996) observed bull trout in the Jarbidge River in early July 1994. Partridge and Warren (1998) documented a bull trout in the Jarbidge River in late August. Water temperatures (16^{O}C or more) at these times were above the reported upper level (15^{O}C) of that bull trout tolerate (Rieman and McIntyre 1993). Vinson (pers. comm.) observed bull trout moving upstream in the East Fork of the Jarbidge near Murphy Hot Spring in late June 1992. During a drought year in 1992, water temperatures varied in the Jarbidge River from 15^{O}C to 26^{O}C in mid-August (Warren and Partridge 1993) about 6 miles above the confluence with the Bruneau River. Water temperature in the East Fork of the Jarbidge River near Murphy Hot Springs averaged 15.1^{O}C in July and 17.6°C in August in 1993. Water temperatures averaged 12.3^{O}C in June, 15.1^{O}C in July, 18.6^{O}C in August and 16.1^{O}C in September in 1997. It is unlikely that bull trout would remain in reaches with these summer water temperatures. Any fluvial bull trout likely migrate to colder tributary streams or locate microhabitat with cold groundwater springs in either the East Fork or West Fork of the Jarbidge River channel during the summer.

5.4.3 Current Conditions

5.4.3.1 Range-wide

Simpson and Wallace (1982) noted that bull trout were found from Northern California northward into Alaska as well as portions of Western Canada (Rieman and McIntyre (1993). Inland non-migratory populations occur in large streams in Western Montana, larger tributary streams in Idaho and the Kootenai, Pend Oreille, and Spokane River systems (Simpson and Wallace 1982). Bull trout have been listed as threatened or endangered species in a number of river basins in the Northwest.

5.4.3.2 Bull Trout Distribution south of the Snake River, Idaho and northern Nevada

The Jarbidge River bull trout subpopulation is the southern most remaining population of bull trout in the United States (Zoellick et al. 1996). It is isolated from all other bull trout subpopulations in Idaho, Oregon, and Washington by a number of dams including C.J. Strike and Swan Falls Dams on the Snake River and the Buckaroo Ditch Diversion on the Bruneau River and Bliss Dam upstream in the Snake River. The nearest bull trout population lies in the Boise River. No other bull trout populations remain in the Snake River upstream of the Bruneau River confluence.

Southern Idaho Historic Distribution

Rieman and McIntyre (1993) indicated that in the Snake River Basin the bull trout's historical range was likely similar to spring, summer, and fall Chinook salmon. Simpson and Wallace (1982) wrote that bull trout were not found in the Snake River basin upstream of Shoshone Falls.

Idaho Fish & Game records indicate that bull trout were present into the 1960's in Salmon Falls Creek (Warren and Partridge 1995). Idaho Fish & Game data indicate bull trout persisted in Rock Creek until the 1960's (F. Partridge pers. comm.). The confluence of Rock Creek is located about 20 miles upstream on the Snake River from the confluence of Salmon Falls Creek. Both creeks are in Twin Falls County, Idaho. Idaho Fish & Game data indicate that bull trout have been caught in only one other drainage south of the Snake River, the Jarbidge River (Warren and Partridge 1993).

Diversions from Cedar Creek have been occurring for most of the 20th century. Roseworth Dam was originally constructed in the late 1920's and upgraded in the 1960's. The impact from the construction and upgrade of Roseworth Dam and on Cedar Creek to bull trout in Salmon Falls Creek is unknown. This dam and subsequent diversion dried up the lower portion (14 miles) of Cedar Creek during the summer and fall. Flows from Devil Creek, a tributary to Salmon Falls Creek, were diverted into House Creek, which dewatered about 36 miles of Devil Creek. Long time residents note that Devil Creek was usually dry by mid summer even before the diversion of Devil Creek. Salmon Dam on Salmon Falls Creek was constructed in 1910. This dam blocked stopped the movement of fish between the lower and upper parts of Salmon Falls Creek. These diversions have eliminated flushing flows to Salmon Falls Creek resulting in the accumulation of high amounts of sediment in Salmon Falls Creek (Warren and Partridge 1995). Neither Idaho Fish & Game nor BLM have any records of bull trout in Cedar Creek or House Creek. A fisheries inventory of portions of Cedar Creek in 1982 and 1997 did not document bull trout (BLM unpublished data). Brook trout have been documented in the lower portion of Cedar Creek and Antelope Creek (BLM unpublished data) as well as Salmon Falls Creek (Warren and Partridge 1995).

The Bliss, Lower Salmon and Upper Salmon Dams on the Snake River isolated the Jarbidge River bull trout population from upstream movements in the Snake River to historic bull trout populations in Salmon Falls Creek and Rock Creek. Swan Falls and C.J. Strike Dams on the Snake River cut off any downstream bull trout movements between the Jarbidge River and the Boise, Weiser, and Payette Rivers.

In Nevada the first known collection of bull trout in the Jarbidge River Drainage was in Dave Creek in 1934 (Miller and Morton 1952). The next documented collection was in 1951on the East Fork of the Jarbidge River (Miller and Morton 1952). Bull trout had been documented in Jack Creek as well as a few locations in West and East Forks of the Jarbidge River (Johnson 1990).

Present Distribution

In 1995 Idaho Fish & Game conducted a fisheries inventory in Salmon Falls Creek. No bull trout were documented (Warren and Partridge 1995). Bull trout are believed extirpated from both Salmon Falls and Rock Creeks. Brook trout also occur in Salmon Falls Creek (Warren and Partridge 1993) as well as Rock Creek.

Warren and Partridge (1995) noted that as recently as 1991, 1 in every 100 fish caught in the Jarbidge River below the Jarbidge River Recreation Site was a bull trout. Within the Jarbidge

River basin, bull trout occupy habitats in 3 geographical areas, the headwaters streams of West Fork of the Jarbidge, East Fork of the Jarbidge, as well as Dave Creek. Preliminary genetics testing suggests there are 8 local populations in headwaters streams and that there is limited genetic exchange between three geographic areas. Prior to this October, Jarbidge Field Office had considered that bull trout would only use the Jarbidge River down to approximately the mouth of Poison Creek. However, Jarbidge Field Office recently became aware that during the winter, it is likely that bull trout move further downstream. Fluvial bull trout in Rapid River, Idaho (Elle et al. 1994) and other areas show some long distance movements (> 30 miles) during the fall through spring (Swanberg 1997). Idaho Department of Fish & Game apparently has some old creel data of bull trout in the Bruneau River.

Nevada Division of Wildlife (NDOW) has suggested that the gradient too steep in Jim Bob Creek for bull trout other than the lowest segment. Watson and Hillman (1997) reported that stream gradient, stream width, and flow were not useful in determining whether or not bull trout could be present over the range of bull trout in the Pacific Northwest. However, in the Boise River Basin Dunham and Rieman (1999) reported bull trout used areas in streams at least 2 meters wide. Neither NDOW nor the FWS have documented bull trout in Robinson Creek to date, however, redband trout are present. NDOW data indicate there are at least 4 natural obstacles to bull trout movement in Robinson Creek (Gary Johnson pers. comm. 2002). NDOW commented that during the certain times (during low flows) of the year these obstacles potentially form physical barriers to upstream bull trout movements. However, NDOW noted that because redband trout are present above the obstacles, bull trout could possibly negotiate these obstacles earlier in the year when flows are higher.

In Nevada bull trout have been confirmed in Pine Creek, Jack Creek, the West Fork of the Jarbidge River, Dave Creek, Slide Creek, Fall Creek and the East Fork of the Jarbidge (Johnson and Weller 1994). Distribution and population data from bull trout inventory conducted since 1998 by the Nevada Division of Wildlife has found 1 adult bull trout in Deer Creek as well as bull trout in Cougar Creek. Preliminary genetics testing suggests there are 8 local populations in headwaters streams and that there is limited genetic exchange between the geographic areas. On September 12, 2001, BLM surveyed a portion of Dave Creek. Bull trout redds were noted during this time from upstream of the forest boundary about 0.2 miles downstream for about 1.4 miles. It appeared that the majority of the potential spawning habitat, based upon the substrate, was on private land (about 1.2 miles) and extended onto the Humboldt-Toiyabi National Forest. Based upon estimated size (>10 inches) fluvial bull trout were present.

5.4.3.3 Local Aquatic Habitat Data

Dave Creek (Focal Habitat)

In 2001 Dave Creek was evaluated for aquatic habitat. The seven day average high temperature in 2001 was 15.2^{O}C with the highest temperature of 18.8^{O}C at (T47N R58E Sec 12 SENW) on Dave Creek. The monitoring location is within 200 feet of the point livestock cross Dave Creek to reach the Dave Island Pasture. A potential thermal barrier is present from July through August in most years. The amount of fine sediment in Dave Creek is elevated on BLM lands (fines 37%), while the upstream Forest Service lands had 9% fines. Fines are considered pea size gravel (0.6 cm or 0.25inch) and smaller material. Embedded-ness score indicates that the

substrate was 50-75% embedded in 2001. Fecal coliform bacteria were 12 colonies/l (in 2002) in Dave Creek.

During the summer of 2002 additional habitat quality data were collected on Dave Creek by BLM. Large woody debris was calculated to be 97.2 pieces per mile. The reach of Dave Creek evaluated in 2002 had 149.5 pools per mile. Large woody debris (>6" diameter) was present in 12 of 17 pools. Over hanging vegetation present in 11 of 17 pools and averaged 1.6 m by 1.5 m. Undercut banks were present in 6 of 17 pools and the undercuts averaged 1.9 m length by 0.6 m in depth. At a sampling point on the lower reach of Dave Creek, 60% of pools had depth of 0.5 m, whereas the sampled area at the upper reach 14% pools had depth of 0.5 m. The upper site was the same area sampled by Burton et al. 2001. For the two sites inventoried pools average maximum depth was 0.56 m and the average pool size over 0.3 m deep was 2.5 m by 1.2 m. In 2002 the Dave Island Pasture received a summer's rest from livestock grazing. The percent of fines declined from 37% to 26% as a result of rest. However, cobble embedded-ness did not change and remained at 50-75% embedded. Off stream habitat in Dave Creek is limited in part due to the canyon shape. Beaver have been present in the recent past (1999), however, in 2001 the dams had failed and no new dams had been constructed. The cause of beaver absence is not known. Width depth ratios in Dave Creek are variable. The ration is 9.6 in protected areas which is the majority of the reach on BLM lands. In disturbed sites the ratio changes to greater than 16.4:1 or more. The width depth ratio should be 5-9 for a stream in a similar size watershed of volcanic parent material. Nearly 71% of the stream bank on BLM lands were classified as vegetated and stable, 3.5% of the banks were uncovered but stable (boulder/cobble), the remaining 25.6% of the banks were unstable.

East Fork Jarbidge (Nodal Habitat)

Idaho Department of Fish & Game has operated a fish trap in the East Fork of the Jarbidge River and has documented the presence of fluvial bull trout. In the East Fork of the Jarbidge River the seven day average maximum temperature 24.1^{O}C highest temperature 26.4^{O}C near Murphy Hot Springs, Idaho (about 1.5 miles north of the Idaho/Nevada state line). Water temperatures for the lower portion of the East Fork of the Jarbidge River annually exceed temperatures for bull trout from mid-June into September and the Idaho Department of Environmental Quality standard for cold water biota of 20^{O}C. Temperature averages are warmer from 2^{O} to 5^{O}C during drought years. The change in water temperature is most likely due to reduced flows. In the fall of 2001 the per cent of fines in the East Fork of Jarbidge River was 20.2% measured just up stream of Murphy Hot Springs. The percent fines in the East Fork Jarbidge River upstream of the draw where livestock trailing occurs dropped to 15.5%. Fecal coliform bacteria levels in the East Fork Jarbidge vary. Background levels are about 10-13 colonies/ml upstream of Murphy Hot Spring and increase to 52 to 230 colonies/ml downstream of the community. When livestock trail across the East Fork Jarbidge, fecal coliform rates spike to 1600 - 4400 colonies/ml at the crossing point and 100 m downstream, respectively, but return to near background levels (10-20 colonies/ml) within 24 hours.

In September 2001 aquatic habitat data were collected in the East Fork of the Jarbidge River about 0.1 miles and 0.3 miles upstream of Murphy Hot Springs. Cobble embedded-ness in the East Fork of the Jarbidge varied 31.5% to 40% in the two locations sampled. Embedded-ness

should be less than 20%. Large woody debris in the East Fork Jarbidge was 30.9 pieces per mile. According to the R1/R4 data base the large woody debris should be at least 48 pieces per mile. Trees in this reach of the East Fork of the Jarbidge River consist of black cottonwood with Rocky Mountain juniper increasing. A number of young cottonwood trees are present on the gravel bars. The low amount of large woody debris in a portion of the East Fork Jarbidge is in part due to locals removing snags to protect bridges in town and for firewood. Pool frequency in the East Fork Jarbidge was 51.5 pools per mile. The segment of the river was a C channel, six of ten pools contained large woody debris. One of ten pools had overhanging vegetation (average 11 m by 1.5 m); one of ten pools had under cut banks (average 0.8 m by 0.4 m). Pool quality is generally low. Only 45% of the pools in the sampled reach were more than 0.5 m deep. The depth of large pools averaged 0.7 m for maximum depth. Pool size over 0.3 m deep was 7.7 m by 4.0 m. The low amount of overhanging vegetation and under-cut banks on the East Fork of the Jarbidge River are due in part to historic use and a rain on snow event in the mid 1990's that scoured the channel. A few overflow channels are present in the floodplain. There was evidence of active beaver work along the banks of the river in 2 places. An erosion gully formed prior to 1976 near the road to Wilkins Island (T16S, R9E Sec 26 SESWNE). Some rills are present on the primary livestock trail to Wilkins Island. The livestock crossing location on the East Fork Jarbidge River is also used by ATV's, motorcycles, and 4x4 trucks.

Jarbidge (Nodal Habitat)

IDF&G has observed bull trout below the confluence of the E. F. Jarbidge indicating fluvial bull trout are present in the main stem of the Jarbidge River. The seven day average maximum was 27 ^{O}C based on information collected in 1994. The temperature was taken at a location just downstream of the confluence with the East Fork Jarbidge (T16S, R9E, Sec. 10 NENWSE). BLM has limited aquatic habitat data for the Jarbidge River. The percent fines are 8% and range from 1 to 17%. Fines are higher just down stream of the East Fork Jarbidge confluence but decline further down the stream as the distance from the roads increases. Phenomenon most likely related to sediment from roads (Warren and Partridge 1993). BLM has no data on cobble embedded-ness. Water quality data from 1982 had the following levels (ppm = parts per million) Nitrogen= 2.0, Sulfate=5.0, Organophosphate=<0.05, Pb=<0.05; Hg=<0.0005, Chloride=3.5, Fecal Coliform=50 organisms/100 ml, Fecal Strep 40 organisms/ 100 ml. Data from August 2000 show that fecal coliform was 100 colonies/100 ml. Large woody debris in the reach is 9.2 pieces per mile, but should be around 21 pieces per mile. The dominant tree in the riparian zone is Rocky Mountain juniper and the conical shape and relatively short height of this tree does not provide much shade. Willows and other shrubs are generally sparse. BLM has no data on pool frequency, pool depth, large pool size, under cut banks, overhanging vegetation, or streambank stability for the Jarbidge River. Jarbidge River width/depth is ratio 54 (calculated from Warren and Partridge 1993), but should not exceed 42 based upon the R1/R4 data base.

Uplands

The overall trend data for the uplands within the Jarbidge River watershed is static. BLM has not collected data to determine if range condition has changed. No trend monitoring studies are located in the uplands in the Dave Island Pasture.

Number of range studies, trend, and ecological condition in Poison Butte and Inside Desert Allotments within the Jarbidge River Watershed.									
	Ecological Condition and Trend								
	Good			Fair			Poor		
Allotment Name	Up	Static	Down	Up	Static	Down	Up	Static	Down
Poison Butte		1			3			3	
Inside Desert								3	1

In 2001 BLM investigated portions of Morgan Draw. Livestock trailing and grazing have resulted in damage to portions of the watershed. Livestock trailing has resulted in a portion of Morgan Draw having the majority of herbaceous vegetation being removed (Figure 5.4.1). Also the trail going into Dave Creek shows signs of active erosion rills (Figure 5.4.2).

Figure 5.4.1 Photograph of the lower portion of Morgan Draw impacted by trailing livestock (July 2001).

Figure 5.4.2 Erosion rill in livestock trail to Dave Creek after 1 year of rest (September 2002).

6.0 DESCRIBE AFFECTS OF THE PROPOSED ACTION

6.1 SLICKSPOT PEPPERGRASS

Threats to the survival of slickspot peppergrass have been attributed to general degradation of sagebrush-steppe habitat from a variety of sources which include wildfires, livestock grazing and trampling, irrigated agriculture, exotic plant species invasions, conversion of habitat to seedings of exotic grasses, urban development, off-road vehicle use and military training. Observations by Popovich (2000, 2001, and 2002) of obvious habitat alteration assumed to be adverse in nature in the Analysis Area included wildfires, fire rehabilitation seedings, and impacts associated with heavy cattle use, both direct and indirect. For this proposed action, livestock grazing and associated activities are the primary causative agents of the affects. Other known threats to this species are not analyzed in this document.

6.1.1 Direct Affects

Direct affects of livestock grazing to slickspot peppergrass and/or slickspot peppergrass habitat include trampling of slickspots which causes plant mortality, degrades the seed bank, churns the soil, and reduces the slickspot integrity (Figure 6.1.1). Herbivory by livestock can also occur, though herbivory by cattle is typically limited. Mancuso (2001) reported trampling by livestock to be one of the main disturbances to slickspot microsites and slickspot peppergrass has been shown to disappear from occupied habitat, especially when grazed during periods of high soil moisture (December through May/June), due to an increase in weedy annuals and soil disturbance (Moseley 1994, Popovich 2001, R. Rosentreter, pers. comm.). Popovich (2001) also found that aboveground slickspot peppergrass plant populations declined or disappeared in areas with heavy trampling impacts. One site Popovich re-visited in 2001 (Q053015), found plants occurring only in slickspots that had no trampling impacts from cattle. A second site revisited (Q053119) showed trampling impacts in 20% of occupied habitat and a decline in plant numbers from the previous year's observations. Trampling physically damages plants and also causes soil compaction in slickspot habitat. Impacts by livestock are greater near water troughs and/or salting areas (less than one mile; Figure 6.1.2). These impacts may cause long-term plant community shifts (loss of native forbs and grasses). It is expected that the management objectives in the proposed action will lessen these impacts.

Figure 6.1.1 Impacts of winter (wet season) grazing on *L. papilliferum* occupied slickspots (Poison Creek Allotment 2/18/2000).

Figure 6.1.2 Impacts from water troughs in *L. papilliferum* occupied habitat (Poison Creek Allotment 5/14/2001).

6.1.2 Indirect Affects

Indirect affects of livestock grazing and associated practices such as salting, water troughs, fence maintenance, pipelines, and access roads include increase in exotic plant invasion, and habitat degradation of slickspots and the surrounding sagebrush-steppe landscape. Slickspots can be degraded by loss of boundary integrity, soil compaction, and increased organic debris. Degradation of slickspots and the surrounding habitat can result in increased invasion of exotic annuals, which increases fire frequency and decreases native forbs. Loss of forbs and trampling of pollinator ground nesting sites by livestock causes a decline in pollinators which decreases

viable seed formation in slickspot peppergrass, since insects are critical for *L. papilliferum* out-crossing and seed production (Robertson 2002). Popovich (2000, 2001) observed potential slickspot peppergrass pollinators only in large, high-quality native habitat sites. These impacts can cause long-term plant community changes (loss of native forbs and grasses). It is expected that the management objectives in the proposed action will lessen these impacts.

6.1.3 Allotments

Existing data from the Analysis Area suggest that reproduction and recruitment of slickspot peppergrass, and the condition of the surrounding vegetation are not favorable for long-term viability of *L. papilliferum* (Mancuso 2002, Moseley 1994, Pyke 1994, Robertson 2002, Elzinga et al 1998, Baskin and Baskin 1978). The rangeland in the Analysis Area is predominantly in an undesirable early to mid-seral stage. The native Wyoming big sagebrush rangeland is highly fragmented and highly modified with almost 100,000 acres burned since 1992 and nearly 47,000 acres seeded to crested wheatgrass since 1995. Observations by JRA staff and data collected during Standards and Guides Assessments indicated that much of the remaining native range has low forb numbers and diversity, numerous exotic and invasive plant species present, and is impacted by livestock use. Density and diversity of native plant species has been shown to decrease due to livestock grazing (Reynolds and Trost 1980). Forbs suffer disproportional high trampling losses in grazed area (Valentine 2001) and make up to 50% of cattle diets for short periods (Hoehne et al 1968 (in Valentine 2001)), contributing to the decline of forbs. Also, occupied clusters of slickspots are one to three miles distant from each other, limiting gene flow (MacArthur and Wilson 1967). The proposed action would likely maintain these conditions as unfavorable for long-term viability of slickspot peppergrass, but the condition of the surrounding native vegetation is expected to improve where use is 40% or less. This utilization level is expected to be 0.5 miles or more from water troughs. Approximately one-third of occupied habitat within the Analysis Area is within 0.5 miles of a water trough and is expected to receive greater than 40% utilization. Where utilization exceeds 45%, trend is expected to be stable or downward (Holechek, et al 1998, Holechek 1988; Holechek, et al 1999; Valentine 2001). The proposed projects are expected to have an overall decrease in the area receiving higher utilizations in occupied habitat, but cause an increase in suitable habitat.

Data from 2001 HII transects shows that establishment of perennial forbs or grasses within the slickspot boundary averages more than three plants per slickspot. This condition is not favorable for long-term viability of *L. papilliferum* (Holechek, et al 1998, Holechek 1988, Holechek, et al 1999, Valentine 2001) and results in a low quality condition. The proposed action is not expected to have an effect on this existing condition, but should result in a decrease in subsequent invasion of slickspots. This would be due to decreased disturbance expected from the limitations on use when slickspot soils are saturated and most easily disturbed. The proposed action would be expected to maintain this unfavorable condition with an upward trend. The limitations on livestock in occupied habitat during periods of likely soil saturation would also be expected to maintain with an upward trend the level of ground disturbance within slickspots. Monitoring has indicated that this condition is currently of moderate quality for slickspot peppergrass.

The condition of the native range due to the presence of non-native annuals and perennials varies within the Analysis Area. Approximately 8,174 acres (15%) of suitable habitat and approximately 7,800 acres (27%) of occupied habitat have been drill seeded to crested wheatgrass, an exotic perennial in recent history. The majority of occupied habitat is mapped as crested wheatgrass seedings. In areas where crested wheatgrass dominates, the presence of non-native species creates a low quality habitat for slickspot peppergrass. In areas not seeded to crested wheatgrass, the condition is moderate quality due to the presence of cheatgrass and bur buttercup. The proposed action would manage exotic seedings at a level to maintain these plant communities as seedings and would be expected to maintain this condition with a stable trend.

The percent cover of microbiotic crust in the Analysis Area creates a moderate quality for this condition. Trampling is one of the greatest disturbance to soil crusts and impacts are less severe when crusts are wet (Belnap 1999, Belnap et al 2001). Recovery rates are slower if disturbance occurs before a long dry period, occurs over a long time period, a large area is disturbed, and/or the adjacent soils are disturbed (Belnap 1999, Belnap et al 2001, Belnap and Eldridge 2000). Grazing management for healthy biological crusts requires that grazing occur when crusts are least vulnerable to shearing - when soils are frozen or snow covered. The proposed action would maintain the quality of this habitat condition as moderate with a stable trend.

The amount of ground disturbance in the general area is also not favorable for long-term viability of slickspot peppergrass (Young 1988, Belnap et al 2001, Young and Evans 1978) with the majority of occupied slickspots being within 0.5 miles or less of existing roads, water troughs, fences, and pipelines. Installation of the proposed projects would maintain the number of water troughs, pipelines, and troughs in occupied habitat. This would be expected to maintain impacts in occupied habitat. The number of troughs in suitable habitat would decrease by one, but the miles of fence and pipeline would increase. This would be expected to increase impacts in suitable habitat by increasing the amount of ground disturbance and increasing trampling impact areas along fences and pipelines. Impacts from livestock due to trailing along pipelines and fencing would be expected to increase in suitable habitat. The proposed projects would be expected to maintain the existing unfavorable condition in occupied and suitable habitat with a stable trend in occupied habitat and a downward trend in suitable habitat.

Pastures with suitable habitat, but no occupied habitat, would have no slickspot peppergrass management guidelines imposed unless future surveys determined the presence of this annual species. Currently, 82% of suitable habitat is found in pastures with occupied habitat. The increased stocking rates would be expected to increase the impact areas around water troughs and would be expected to increase the utilization rate, though this rate would be limited to 40% at key areas. Impacts to habitat would continue to occur during periods of soil saturation and spring use. Impacts to suitable habitat from troughs would decrease with the relocation of IDP 12 out of suitable habitat. The relocation of trough PBP 11 from suitable to suitable habitat would cause neither an increase nor a decrease to suitable habitat. The miles of pipeline and fence would, however, increase in suitable habitat. Fences PBF1 and IDF3 would split-out suitable habitat from occupied pastures. Impacts to suitable habitat in these new pastures would not be mitigated by slickspot peppergrass management guidelines. The fenced exclosure (PBE 1) would also increase the amount of fence in suitable habitat. The proposed increased stocking

rates and proposed projects would be expected to increase livestock impacts to suitable habitat due to increased trampling, increased high use areas, and increased stocking rates. These impacts would be mitigated by the proposed management guidelines which would limit utilization to 40 or 50% and the proposed slickspot peppergrass management guidelines where suitable habitat occurs in occupied pastures.

Presently, organic debris deposition in slickspots and slickspot boundary compromise indicate marginally suitable habitat conditions for long-term viability of *L. papilliferum* based on 2001 HII and Viability Occurrence data (Eckert et al 1986). The proposed no grazing in occupied slickspot peppergrass habitat pastures when the soils are saturated (primarily February 1 to March 31) and 20% utilization at key areas from April 1 until June 1 on alternative years is expected to create an upward trend in slickspot boundary compromise. This would be due to a decrease in trampling impacts (Guthery and Bingham 1996) and invasion by weedy annuals (Brooks 1999, Belsky and Gelbard 2000), as well as decrease adverse impacts from livestock trampling both within the slickspots and in the surrounding rangeland. However, greater than 40% utilization on alternate years in approximately one-third (10,335 acres) of the occupied acres will create a stable trend in organic debris deposition.

Impacts from livestock grazing are unavoidable under the proposed action and but are expected to decrease. The significance of the expected impacts to the long-term viability is unknown. The management guidelines would mitigate impacts to occupied habitat and the majority of suitable habitat, and monitoring of effects to slickspot peppergrass would determine the impacts from the proposed action to the long-term viability of this species within the project area.

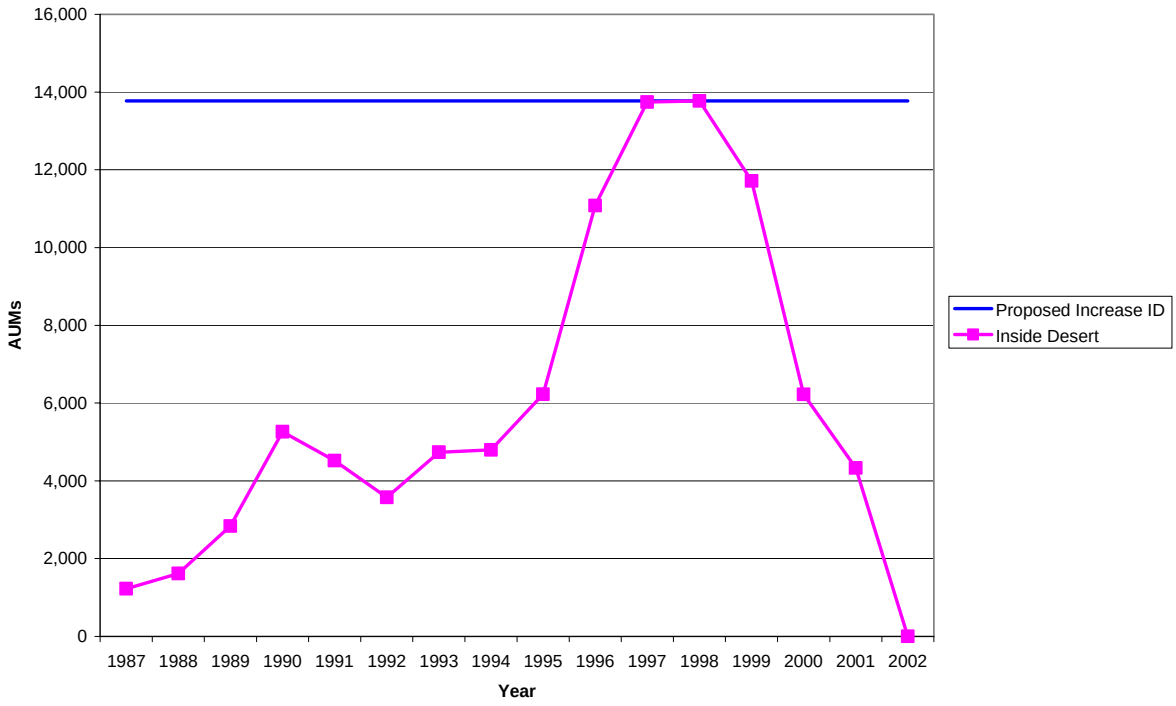
6.1.3.1 Inside Desert (Poison Creek East)

The majority of this allotment is in an undesirable early-seral stage with an upward-static or static trend. The native plant community in this allotment has been fragmented by wildfires and impacted by seeding of exotic grasses. The proposed action would maintain a year-round season of use in this allotment; allocate 23,859 AUMs, and permit a cow/horse change in class of stock. This will be an additional 13,771 of permitted AUMs, historically issued on an annual basis as temporary non-renewable forage (TNR) (see Figure 6.3). The amount of above ground biomass removed by livestock grazing is expected to increase from the 10-year average of 27% to a yearly use of 38% under this alternative. This increase in biomass removal is expected to result in an increased stocking rate. Management guidelines would mitigate impacts from this increase. In pastures with known occupied slickspot peppergrass habitat, slickspot peppergrass-specific grazing management will be applied to the entire pasture: no trailing during periods of saturated soil, no grazing February 1 to March 31, spring-summer deferred rotation system limiting use to 20% from April 1 to June 23 and 40% use June 24 to October 1 with no spring-summer use on alternate years. Utilization levels would be determined at key areas (0.5 miles from water troughs). Utilization on years with no spring-summer grazing would be 40% at key areas in native plant communities during the fall and early winter. The proposed action will likely maintain the condition of the surrounding vegetation as unfavorable for the long-term viability of slickspot peppergrass, with an upward trend in the condition of the surrounding native vegetation expected where use is 40% or less. This utilization level is expected to be 0.5 miles or more from water troughs. Approximately one-third (10,282 acres) of occupied habitat is located

within 0.5 miles of a water trough and expected to receive greater than 40% utilization. Where utilization exceeds 45%, trend is expected to be stable or downward (Holechek, et al 1998, Holechek 1988; Holechek, et al 1999; Valentine 2001).

The proposed no grazing in occupied slickspot peppergrass habitat pastures when the soils are saturated (primarily February 1 to March 31) and 20% utilization at key areas from April 1 until June 23 on alternative years is expected to create an upward trend in slickspot boundary compromise. This would be due to a decrease in trampling impacts (Guthery and Bingham 1996) and invasion by weedy annuals (Brooks 1999, Belsky and Gelbard 2000), as well as decrease adverse impacts from livestock trampling both within the slickspots and in the surrounding rangeland. However, greater than 40% utilization on alternate years in approximately one-third (10,282 acres) of the occupied acres will create a stable trend in organic debris deposition in those areas.

Figure 6.1.1 Inside Desert Historic TNR AUMs issued and proposed AUM increase



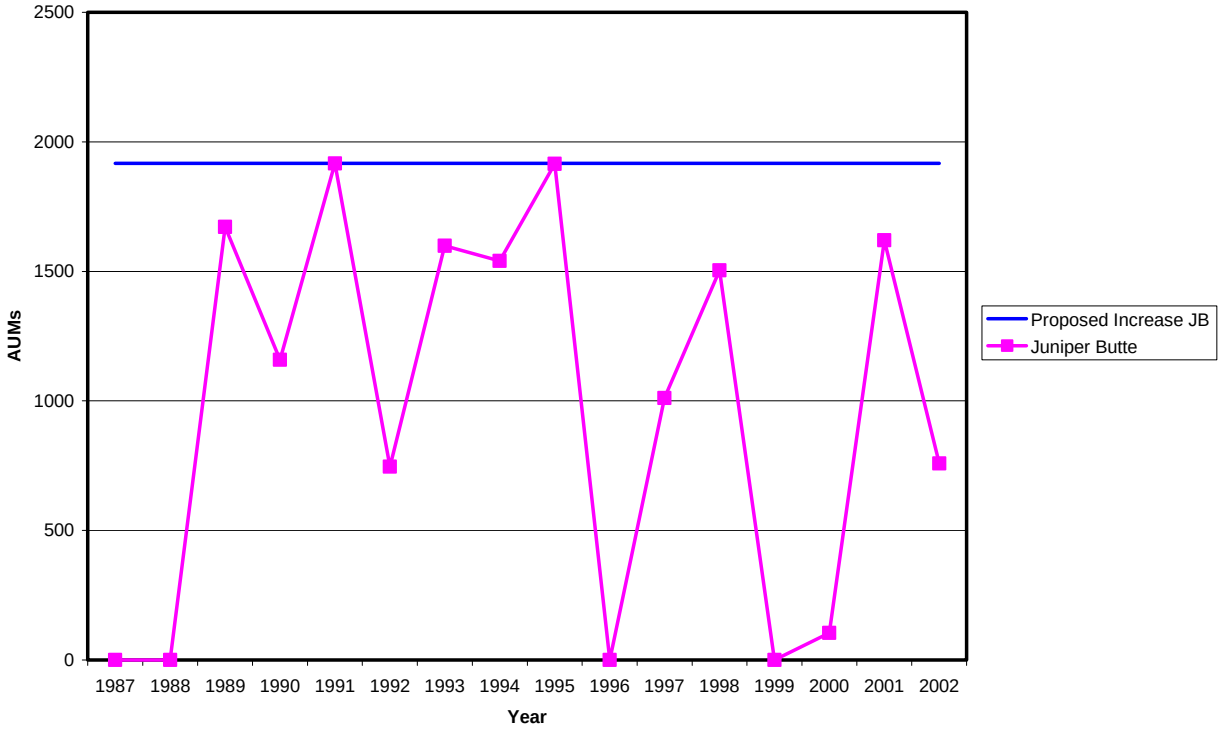
6.1.3.2 Juniper Butte

The native plant community in this allotment has been fragmented by wildfires and impacted by seeding of exotic grasses. The proposed action would change the season of use in this allotment from 4/1-1/23 to year-round, though year-round use is unlikely, and allocate 2,976 AUMs. This would be an additional 1,917-permitted AUMs, historically issued on an annual basis as TNR (see Figure 6.4). The amount of above ground biomass removed by livestock grazing is

expected to increase from the 10-year average of 27% to a yearly use of 34% under this alternative. This increase in biomass removal is expected to result in an increased stocking rate. Management guidelines would mitigate impacts from this increase. In pastures with known occupied slickspot peppergrass habitat, slickspot peppergrass -specific grazing management will be applied: no trailing during periods of saturated soil, no grazing February 1 to March 31, spring-deferred rotation system limiting use to 20% from April 1 to June 23 and 40% use from June 23 to October 1 with no spring-summer use on alternate years. Utilization levels would be determined at key areas (0.5 miles from water troughs). Utilization on years with no spring grazing would be 40% at key areas in native plant communities during the fall and early winter. The proposed change in season of use may increase impacts to suitable habitat during the early spring when soils are likely to be saturated. Projects for this allotment are one trough and 0.5 miles of associated pipeline. The proposed action will likely maintain the condition of the surrounding vegetation as unfavorable for the long-term viability of slickspot peppergrass, with an upward trend in the condition of the surrounding native vegetation expected where use is 40% or less. This utilization level is expected to be 0.5 miles or more from water troughs. Approximately 23% (513 acres) of occupied habitat is located within 0.5 miles of a water trough and expected to receive greater than 40% utilization. Where utilization exceeds 45%, trend is expected to be stable or downward (Holechek, et al 1998, Holechek 1988; Holechek, et al 1999; Valentine 2001).

The proposed no grazing in occupied slickspot peppergrass habitat pastures when the soils are saturated (primarily February 1 to March 31) and spring-deferred rotation system limiting use to 20% from April 1 to June 23 and 40% use from June 23 to October 1 with no spring-summer use on alternate years is expected to create an upward trend in slickspot boundary compromise. This would be due to a decrease in trampling impacts (Guthery and Bingham 1996) and invasion by weedy annuals (Brooks 1999, Belsky and Gelbard 2000), as well as decrease adverse impacts from livestock trampling both within the slickspots and in the surrounding rangeland. However, greater than 40% utilization on alternate years in approximately 23% (513 acres) of the occupied acres will create a stable trend in organic debris deposition.

Figure 6.1.2 Juniper Butte Historic TNR AUMs issued and proposed AUM increase.

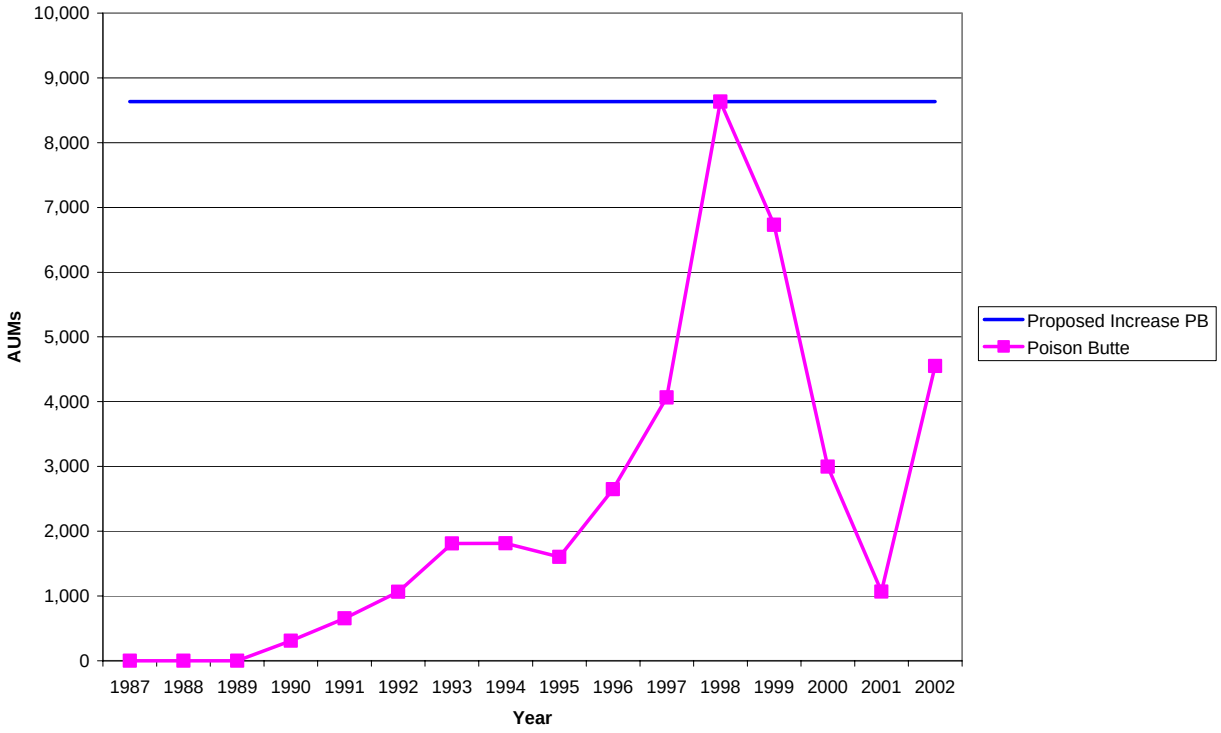


6.1.3.3 Poison Butte (Poison Creek West)

The majority of this allotment is currently in an unsuitable early-seral stage with a static or downward trend. The native plant community in this allotment has been fragmented by wildfires and impacted by seeding of exotic grasses. The proposed action would maintain a year-round season of use in this allotment and allocate 14,993 AUMs. This would be an additional 8,633-permitted AUMs, historically issued on an annual basis as TNR (see Figure 6.6). In pastures with known occupied slickspot peppergrass habitat, slickspot peppergrass -specific grazing management will be applied: no trailing during periods of saturated soil, no grazing February 1 to March 31, spring-deferred rotation system limiting use to 20% from April 1 to June 23 and 40% or 50% use from June 23 to October 1 with no spring-summer use on alternate years. Utilization levels would be determined at key areas (0.5 miles from water troughs). Utilization on years with no spring grazing would be 40% or 50% at key areas in native plant communities during the fall and early winter. The proposed action will likely maintain the condition of the surrounding vegetation as unfavorable for the long-term viability of slickspot peppergrass, with an upward trend in the condition of the surrounding native vegetation expected where use is 40% or less. This utilization level is expected to be 0.5 miles or more from water troughs. Approximately half (2,709 acres) of occupied habitat is located within 0.5 miles of a water trough and expected to receive greater than 40% utilization. Where utilization exceeds 45%, trend is expected to be stable or downward (Holechek, et al 1998, Holechek 1988; Holechek, et al 1999; Valentine 2001).

The proposed no grazing in occupied slickspot peppergrass habitat pastures when the soils are saturated (primarily February 1 to March 31) and spring-deferred rotation system limiting use to 20% from April 1 to June 23 and 40% use from June 23 to October 1 with no spring-summer use on alternate years is expected to create an upward trend in slickspot boundary compromise. This would be due to a decrease in trampling impacts (Guthery and Bingham 1996) and invasion by weedy annuals (Brooks 1999, Belsky and Gelbard 2000), as well as decrease adverse impacts from livestock trampling both within the slickspots and in the surrounding rangeland. However, greater than 40% utilization on alternate years in approximately 58% (2,665 acres) of the occupied acres will create a stable trend in organic debris deposition.

Figure 6.1.3 Poison Butte Historic TNR AUMs issued and proposed AUM increase.



6.2 BALD EAGLE

6.2.1 Direct effects

Grazing livestock is not associated with any direct affects to wintering bald eagles. Livestock have been observed under trees where bald eagles are perched while doing the winter eagle count.

6.2.2 Indirect Affects

Livestock can alter the habitat which could in turn alter the prey base (Reynolds and Trost 1980, Bock et al. 1984). However, the greatest factors influencing habitat in the project in the past 10

years are wild fire and to a lesser extent OHV use. Wild fire and subsequent fire rehabilitation has resulted in tens of thousands of acres being converted to crested wheatgrass seedings. A non-native annual grass, cheatgrass or downy brome (*Bromus tectorum*) has invaded much of the burned areas in the northern portion of the JFO. For these large areas the habitat is not suitable to support black-tailed jackrabbits or cottontail which could be food for wintering eagles.

6.2.3 Yahoo Allotment

In the Yahoo Allotment the change in season of use from November 15 – June 15 to 3/1– 2/28 will not result in any new affects. Cattle presently graze the allotment during the time when bald eagles are present. Riders checking livestock may on occasion see a bald eagle flying overhead or occasionally roosting in a tree between Coyote Spring and the Hagerman Fossilbeds National Monument. No bald communal roosting areas are known in the allotment. No bald eagle nests occur in the allotment and the existing woody species (willows and Russian olive) are not large enough to support an eagle nest. Presently the allotment wide utilization level is about 39%. Much of the allotment has been seeded to crested wheatgrass. The residual grass height is about 6.5 inches. The increase of AUMs in the Yahoo Allotment from 2,304 AUMs (2,060 existing grazing permit and 244 TNR) to 2,717 AUMs is expected to result in an allotment wide utilization of 5.5 inches on crested wheatgrass. The 1.0 inch difference in residual grass height is not expected to result any degradation of foraging habitat for bald eagle.

Although it is not unusual for bald eagles to fly over the allotment, it is rare that riders checking or moving livestock would flush a bald eagle perched in a tree along Yahoo Creek. The net increase of 413 AUMs may result in slight increase carrion because of livestock mortality, which could be used by scavenging eagles. Although bald eagles can consume mammalian prey (hares, etc. Johnsgard 1990), the change in AUMs in this allotment is unlikely to result in changes to the prey base. Wild fire has reduced the habitat for black-tailed jackrabbits and cottontails in the allotment. The adoption of grazing management guidelines are expected to maintain the veget al component in the allotment and allow for improvement of the riparian zone.

(1) In native pastures upland utilization on native bunchgrass plant communities would be limited not to exceed 40% of current growth;
(2) In pastures seeded to non-native grasses would be limited to utilization not to exceed 50% of the current growth;
(3) In pastures seeded to non-native grass with > than shrub cover would be limited to 40% use of the current growth;

6.3 BLISS RAPIDS SNAIL

6.3.1 Direct Affects

Because grazing livestock in the analysis area do not have access to the Snake River, there are no directs to Bliss Rapids snails. Trampling by livestock is one direct impact on this species where it occurs in shallow water.

6.3.2 Indirect Affects

Indirect affects to Bliss Rapids snail or their habitat would be primarily related to water quality. Grazing related affects to water include: lower dissolved oxygen, and increasing water

temperature, nutrients, suspended sediments, and bacterial counts (Kauffman and Krueger 1984, Platts 1990, Stephenson and Street 1978, Tiedemann et al. 1987).

Increased grazing intensity in the uplands may result in less water infiltration and more run-off (Johnston 1962, Rauzi and Hanson 1966). The influence of tramping on soils is affected by soil texture (Abdel-Magid 1987). Warren et al. (1986) and Abdel-Magid (1987) noted trampling impacts to soils (compaction) are exacerbated when soils are moist. Warren et al. (1986) and Weltz and Wood (1986) documented that water infiltration decreased as livestock grazing increased. Rauzi and Hanson (1966) and Warren et al. (1986) noted that soil bulk density increased as stocking rate increased. Warren et al (1986) did not determine how long soil should be rested for soil bulk density to return to pretreatment levels. Rauzi and Hanson (1966) noted that run-off was least and infiltration was greatest in lightly grazed watersheds. Rauzi and Hanson (1966) reported that litter (mulch) and vegetation contributed to water uptake. This study did not use an ungrazed control. Johnston (1962) showed that soil loss was less in lightly grazed pastures. Wildfire has eliminated the microbiotic soils crusts from the majority of the allotment. Holechek et al. (1998) wrote that moderate grazing resulted in increased erosion over the ungrazed condition, but concluded that moderate grazing would not cause watershed damage on most rangelands. Little research has been done on grazing impacts on moisture or saturated soils in southern Idaho. It is not known how long the recovery of soils bulk density would take following livestock trampling during wet periods, particularly from March through April.

6.3.3 Yahoo Allotment

6.3.3.1 Direct Affects

The change in permitted AUMs from 2,060 AUMs to 2,304 AUMs in the Yahoo Allotment is not expected to result in increased sediment movement from the allotment. The level grazing has occurred in the past at levels higher than the proposed conversion. Grazing management guidelines will be adopted for the allotment to maintain and where needed improve riparian condition of Yahoo Creek. Grazing management guidelines for riparian zones are likely to trigger livestock movements from the pasture with Yahoo Creek, before upland grazing management guidelines are met. Specifically, grazing management will be conducted so that:

(1) In native pastures upland utilization on native bunchgrass plant communities would be limited not to exceed 40% of current growth;
(2) In pastures seeded to non-native grasses would be limited to utilization not to exceed 50% of the current growth;
(3) In pastures seeded to non-native grass with > than shrub cover would be limited to 40% use of the current growth;
(4) Riparian zones presently rated as functional-at-risk, upward trend or in properly functioning condition would be subject to a minimum four inch median stubble height on key riparian species;
(7) Bank alteration will not exceed 20% due to livestock;
(8) Livestock would be managed so that no more than 50% frequency of nipping on current years leaders on key riparian shrubs where woody species are susceptible to browsing damage and browsing is affecting normal growth form or age class structure.

Grazing management guidelines (1 through 3) for upland herbaceous vegetation are expected to maintain adequate vegetative and litter cover so that water infiltration rates for the soil will be maintained and their should be no increase in run-off erosion. Grazing management guidelines for riparian zones will provide adequate herbaceous stubble height to trap any sediments coming from uplands.

6.4 BULL TROUT

6.4.1 Direct Affects

Livestock grazing may directly impact bull trout through the trampling of redds during or shortly after spawning when they drink from creeks, cross creeks, or trail down creeks. Bank sloughing caused by livestock trampling can damage fish habitat (Platts 1990).

6.4.2 Indirect Affects

In riparian zones indirect affects of livestock grazing can include temporary movements of bull trout and changes in aquatic habitat (decreases in bank vegetation, overhanging banks, dissolved oxygen, and aquatic insects, as well as increases in suspended sediment, bacteria, water temperature, fines in gravels/spawning habitat) (Kauffman and Krueger 1984, Platts 1990, Stephenson and Street 1978, Tiedemann et al. 1987.).

Increased grazing intensity in the uplands may result in less water infiltration and more run-off (Johnston 1962, Rauzi and Hanson 1966). The influence of tramping on soils is affected by soil texture (Abdel-Magid 1987). Warren et al. (1986) and Abdel-Magid (1987) noted trampling impacts to soils (compaction) are exacerbated when soils are moist. Warren et al. (1986) and Weltz and Wood (1986) documented that water infiltration decreased as livestock grazing increased. Rauzi and Hanson (1966) and Warren et al. (1986) noted that soil bulk density increased as stocking rate increased. Warren et al (1986) did not determine how long soil should be rested for soil bulk density to return to pretreatment levels. Rauzi and Hanson (1966) noted that run-off was least and infiltration was greatest in lightly grazed watersheds. Rauzi and Hanson (1966) reported that litter (mulch) and vegetation contributed to water uptake. This study did not use an ungrazed control. Johnston (1962) showed that soil loss was less in lightly grazed pastures.

Livestock damage to microbiotic soil crusts also increases soil loss, decrease water infiltration and run-off (Belnap et al. 1999, Belnap et al 2001). Ponzetti and McCune (2001) note that in grazed areas microbiotic soil crusts covered less soil surface, reduced species richness, and reduced nitrogen fixing lichens compared to soils where livestock grazing had been excluded. Livestock grazing during the winter had no effect on mosses and less effect on lichens that grazing during the spring and summer (Memmott et al. 1998). Overall biotic soil crusts in this study declined 48% in summer grazing and 62% in spring grazing. Microbiotic soil crusts take time to recover following disturbance. Cyanobacteria may recover in 16 months to 5 years (Rychet 2002) whereas; lichen and moss biological crusts may take much longer (Belnap et al. 1999). Holechek et al. (1998) wrote that moderate grazing resulted in increased erosion over the ungrazed condition, but concluded that moderate grazing would not cause watershed damage on most rangelands.

6.4.3 Allotments

6.4.3.1 Poison Butte Allotment

Soils in the south part of the Poison Butte Allotment vary. Some soils were ranked high for water erosion (NRCS 1997). Soils with steeper slopes generally had a higher water erosion hazard rank than soils on the flatter upland plateaus. Soils in Dave Creek Canyon and Morgan Draw are classified as "moderate" hazard for water erosion.

The change in permitted use from 6,360 AUMs to 14,993 AUMs in the Poison Butte Allotment is to a level that was grazed once in the last 15 years. The present allotment wide utilization based upon 9,258 AUMs (permit 6,360 AUMs and TNR 2,898 AUMs over the last 11 years) was calculated to be 21% (EA#02049 in Grazing Management Section). The allotment wide stocking rate would change from 8.2 acres/AUM to 5.1 acres/AUM. The change in AUM's (to 14,993 AUMs) will result in an allotment wide average utilization of 35%. The change in AUMs will result in more herbaceous biomass being consumed by livestock. The effect on residual stubble height (Table 6.4.1) is a 2 inch overall reduction in the amount of veget al material that would become litter. Although the amount of litter is expected to decrease, it is not known to what degree, if any, sediment would increase. Impact areas around water troughs and ponds are expected to expand because of higher numbers on a sustained basis. Because key areas will be used to measure use, actual use levels will likely be lower than the projected allotment wide utilization.

Table 6.4.1 Residual grass heights at different utilization levels in the considered alternatives

Grass species	Ungrazed Height	Residual Height 21% (inches)	Residual Height 35% (inches)	Residual Height 50% (inches)
Bluebunch wheatgrass	23	8.5	6.1	4.5
Idaho Fescue	19	4.7	2.7	2.0
Sandberg bluegrass	14	5.5	3.5	2.3
Crested wheatgrass	21	10.0	6.6	<5.0

(1) In native pastures upland utilization on native bunchgrass plant communities would be limited not to exceed 40% of current growth;
(2) In pastures seeded to non-native grasses would be limited to utilization not to exceed 50% of the current growth;
(3) In pastures seeded to non-native grass with > than shrub cover would be limited to 40% use of the current growth;
(4) Riparian zones presently rated as functional-at-risk, upward trend or in properly functioning condition would be subject to a minimum four inch median stubble height on key riparian species;
(6) Bank alteration will not exceed 10% due to livestock on fish bearing streams;
(8) Livestock would be managed so that no more than 50% frequency of nipping on current years leaders on key riparian shrubs where woody species are susceptible to browsing damage and browsing is affecting normal growth form or age class structure;
(14) For the Dave Island Pasture livestock grazing would be limited to a period between June 15 and August 15.

Cattle trail down a steep slope, across Dave Creek, and up Morgan Draw, to graze the Dave Island Pasture. The impacts of livestock trailing are in addition to the normal grazing in the uplands because the herd (in the past up to 500 yearlings) is concentrated during trailing. In cooperation with the permit holder, Dave Island Pasture was rested from livestock grazing in 2002. Some rill erosion was observed in 2002 the trailing area. Key area(s) will be established in the northern portion of Morgan Draw to evaluate the effects on livestock trailing across Dave Creek and up Morgan Draw on habitat. Some other projects have tentatively been identified for the Dave Island Pasture. These involve a boundary fence between the private land and BLM land and an exclosure around the portion of Morgan Draw with wetland vegetation. A biological assessment for these projects and accompanying E.A. will be prepared in the near future.

Fences proposed in the Saltbush Pasture are not within the Poison Creek watershed. The proposed exclosure associated with the Post Office Site protection, is not expected to result in adverse effects in the Poison Creek Watershed. The proposed water trough location (PBP-11) is about 0.2 to 0.3 miles from Poison Creek. However, it is expected to increase livestock use in the area including the Poison Creek. The bottom of the channel in reach of Poison Creek contains a cobble substrate, vegetated by bluebunch wheatgrass. The combination of rocky bottom and vegetation should provide some filtering of sediment. Poison Creek is ephemeral and does not run water annually.

6.4.3.2 Inside Desert Allotment

No bull trout habitat occurs in the Inside Desert Allotment. Flat, Pole and Spring Creeks are tributaries to Clover Creek which enters the Bruneau River between River mile 37 and 38 about 29 air miles southeast of the town of Bruneau, Idaho. Pole and Spring Creek dry up as part of their current hydrologic cycle. Flat Creek and Clover Creek can be dewatered from agricultural diversions on private land. The Inside Desert Allotment is included in the analysis for bull trout because much of the allotment is in the Poison Creek watershed, an ephemeral tributary to the Jarbidge River. The change in permitted use from 10,088 AUMs to 23,859 AUMs in the Inside Desert Allotment is to a level that was grazed once in the last 13 years. The present allotment wide utilization based upon 17,298 AUMs (existing permit 10,088 AUMs and TNR 7,210 AUMs over the last 11 years) was calculated to be 25%. The stocking rate for the Inside Desert Allotment would change from 6.1 acres/AUM to 4.4 acres/AUM. The proposed action would result in the allotment wide utilization rate to be about 35%. The over affect would be to reduce residual grass cover by about 1.5 inches. Impact areas around water troughs and ponds are expected to expand because of higher numbers on a sustained basis. Proposed grazing associated projects in this allotment are not within the Poison Creek watershed.

6.4.4 Aquatic Enhancement Project

East Fork Jarbidge River Juniper thinning/large woody debris project is expected to reduce shade over the East Fork of the Jarbidge River slightly during the morning and afternoon. The stream channel is exposed to direct sunlight during mid day. In the early morning and evening the deep canyon provides shade. Junipers selected for cutting will not be directly on the streambank to minimize the reduction in shade. Because not all of the juniper would be cut, they would still provide some stream shading and detritus. Placing juniper in the East Fork of the Jarbidge River is expected to result in some sediment entering the water. No mechanized equipment would be

used and trees would not be dragged along the banks. Spring flows the next year should transport much of these fines through the system. Over time the planted cottonwood are expected to provide more shade over the water than the juniper presently provide. Planting the cottonwood should increase the amount of detritus into the aquatic habitat via leaf fall. Detritus is expected to provide habitat and forage to support macro-invertebrates.

The large woody debris is expected to improve the aquatic habitat. Bull trout and other trout typically are found in pools with cover including large woody debris. Rieman and McIntyre (1993) note that bull trout are usually associated with large or complex woody debris. Rieman and McIntyre (1993) and Harvey et al. (1999) also note that large woody debris enhances the complexity of aquatic habitat and can enhance habitat provided by pools. Large woody debris enhances winter habitat for several trout species. Large woody debris also creates more habitat complexity: deeper pools, riffles, increases detritus for macro invertebrates, as well as shade and cover (Remich 2002). Water temperatures are typically cooler in deeper pools (Harvey et al. 1999). Additional sunlight on the stream channel because of the deciduous leaf drop is not an adverse affect on water temperature or trout habitat in the winter.

7.0 DETERMINATION OF AFFECTS OF THE PROPOSED ACTION

7.1 SLICKSPOT PEPPERGRASS

May Adversely Affect. Impacts from the proposed action are likely to adversely affect *L. papilliferum* and its habitat. The majority (67%) of the occupied habitat for the Inside Desert population occurs in the Analysis Area. Of the BLM managed land, 95% of this meta-population's occupied habitat occurs in the Analysis Area. The Inside Desert meta-population is approximately one-third of the global element occurrences (EOs). The proposed action will affect 83% of JFO occurrences (19 of 23), 27% of global occurrences (19 of 70), and 41,751 acres of suitable habitat. The current yearly AUMs issued in the Analysis Area averaged 28,886 AUMs; the proposed action would issue 41,828 AUMs; this is an increase of 12,942 AUMs project-wide. Biomass consumption of aboveground forage is expected to increase from the 10-year average of 20% to a yearly use of 30%. This would be expected to result in a corresponding stocking rate increase. A 34% utilization rate would be expected during normal precipitation years. In years with above average precipitation, utilization levels would be less than 34%, while utilization would be greater than 34% on below normal precipitation years. While impacts might be anticipated in an unmanaged environment as a result of the stocking rates, change in season of use, and projects, management of livestock grazing in accordance with the guidelines designed to address the findings in the determinations will ensure impacts are avoided and/or mitigated. Once utilization of 40% or 50% is approached or achieved at key areas, livestock will be moved from one pasture to the next in accordance with the annual grazing plan. The 40-50% utilization rates would not be expected to be reached each grazing season. Management guidelines in occupied habitat would reduce impacts to slickspot peppergrass and its habitat by allowing no grazing during the most likely period of soil saturation (February 1 to March 31), limiting livestock use during the spring (March 1 to June 23) to 20% utilization at key areas with summer utilization of 40% or 50%, and resting pastures in the spring and summer on alternate years.

7.1.1 Inside Desert (Poison Creek East)

May Adversely Affect. Inside Desert allotment has 22,089 acres (75% of JFO occupied habitat) that have occupied slickspots scattered throughout the Wyoming big sagebrush plant community. Occupied habitat occurs in six pastures. Inside Desert Allotment also contains 30% of the suitable slickspot peppergrass habitat (expected to be occupied, but not confirmed) in the JFO. Approximately 6,455 acres (54%) of the suitable habitat has been surveyed for *L papilliferum* during one field season. Surveys in this allotment occurred primarily in 2002, though limited surveys also occurred in 1999. There was no overlap in surveyed areas between the two survey years. Approximately 90% of the suitable habitat in this allotment occurs in pastures with occupied habitat and would be managed as occupied habitat.

The amount of above ground biomass removed by livestock grazing is expected to increase from the 10-year average of 27% to a yearly use of 38% under this alternative. A 35% utilization rate would be expected during normal precipitation years. In years with above average precipitation, utilization levels would be less than 35%, while utilization would be greater than 35% on below normal precipitation years. While impacts might be anticipated in an unmanaged environment as a result of the stocking rates, change in season of use, and projects, management of livestock grazing in accordance with the guidelines designed to address the findings in the determinations will ensure impacts are avoided and/or mitigated. Once utilization of 40% or 50% is approached

or achieved at key areas, livestock will be moved from one pasture to the next in accordance with the annual grazing plan.

7.1.2 Juniper Butte

May Adversely Affect. Juniper Butte allotment has 2,198 acres (7% of JFO occupied habitat) which have occupied slickspots scattered throughout the Wyoming big sagebrush plant community. Occupied habitat occurs in two pastures. This allotment contains 29% of the suitable Jarbidge habitat (expected to be occupied, but not confirmed). Suitable habitat occurs in all pastures in this allotment, the majority of which (75%) occurs in occupied pastures and would be managed as occupied habitat. Approximately 1,507 acres (12%) of suitable habitat in this allotment has been surveyed for *L papilliferum* during one field season. Surveys in this allotment occurred in 1999 and 2002. There was no overlap in surveyed areas between the two survey years.

The amount of above ground biomass removed by livestock grazing is expected to increase from the 10-year average of 27% to a yearly use of 34% under this alternative. A 27% utilization rate would be expected during normal precipitation years. In years with above average precipitation, utilization levels would be less than 27%, while utilization would be greater than 27% on below normal precipitation years. While impacts might be anticipated in an unmanaged environment as a result of the stocking rates, change in season of use, and projects, management of livestock grazing in accordance with the guidelines designed to address the findings in the determinations will ensure impacts are avoided and/or mitigated. Once utilization of 40% or 50% is approached or achieved at key areas, livestock will be moved from one pasture to the next in accordance with the annual grazing plan.

7.1.3 Poison Butte (Poison Creek West)

May Adversely Affect. Poison Butte allotment has 4560 acres (18% of JFO occupied habitat) which have occupied slickspots scattered throughout the Wyoming big sagebrush plant community. Occupied habitat occurs in five pastures. Poison Butte Allotment contains 41% of suitable Jarbidge slickspot peppergrass habitat (expected to be occupied, but not confirmed). Approximately 2474 acres (14%) of suitable habitat in this allotment has been surveyed for *L papilliferum* during one field season. Surveys in this allotment occurred in 2002. Approximately 77% of the suitable habitat in this allotment occurs in pastures with occupied habitat and would be managed as occupied habitat.

The amount of above ground biomass removed by livestock grazing is expected to increase from the 10-year average of 20% to a yearly use of 32% under this alternative. A 34% utilization rate would be expected during normal precipitation years. In years with above average precipitation, utilization levels would be less than 34%, while utilization would be greater than 34% on below normal precipitation years. While impacts might be anticipated in an unmanaged environment as a result of the stocking rates, change in season of use, and projects, management of livestock grazing in accordance with the guidelines designed to address the findings in the determinations will ensure impacts are avoided and/or mitigated. Once utilization of 40% or 50% is approached or achieved at key areas, livestock will be moved from one pasture to the next in accordance with the annual grazing plan.

7.2 BALD EAGLE.

7.2.1 Yahoo Allotment

May Affect, Not Likely to Adversely Affect. The occasional disturbance of individual bald eagles by riders checking livestock during the winter is believed to be negligible and discountable.

7.3 BLISS RAPIDS SNAIL.

7.3.1 Yahoo Allotment

May Affect, Not Likely to Adversely Affect. Livestock grazing in the Yahoo Allotment do not have access to the Snake River. Grazing management guidelines for riparian zones should result in any sediment produced in the uplands by grazing livestock being retained on in the riparian zone. A pond on state land (T13S, R08E, Section 16, NWNE) vegetated with cattails and bulrush also functions as a sediment trap for the bulk of the watershed. The amount of sediment and other nutrients produced by livestock grazing in this allotment are believed to have negligible and discountable impacts to water quality in the Snake River. The primary source of sediment on BLM lands in this allotment is from OHV use. Farming, aquaculture, and the operation of the hydroelectric dams on the Bliss Rapids snail in the immediate area have more effect on the Bliss Rapids snail and it habitat.

7.4 BULL TROUT

7.4.1 Inside Desert Allotment

May Affect, Not Likely to Adversely Affect. Livestock grazing in the Inside Desert Allotment do not have access to bull trout habitat. Although the amount of AUMs increased, the increase is not expected to increase sediment production to any great degree. Grazing management guidelines 1 through 3 are expected to maintain vegetative cover and litter to protect the watershed. The Poison Creek watershed contains about 55,900 acres, of this about 21,550 acres are within the Inside Desert Allotment. Nine of twenty nine pastures and two holding pastures are within or partially within the Poison Creek watershed. Poison Creek empties into the Jarbidge River a little more that 8 miles upstream of the Bruneau/Jarbidge River confluence. The impacts of any increase in sediment to the Jarbidge River from the Inside Desert Allotment are believed to be negligible and impacts would be to fluvial habitat.

7.4.2 Poison Butte Allotment

May Affect, Likely to Adversely Affect. Within the Poison Butte Allotment 48,265 acres are within the Jarbidge River watershed (30,408 acres- Poison Creek, 3,004 acres - Dave Creek, 4,803 acres - East Fork Jarbidge, and 10,050 acres - Jarbidge River). Livestock do not have access to bull trout habitat in much of the allotment. Sixteen of twenty seven pastures and one holding pasture are within or partially in the Jarbidge River Watershed. Although the AUMs are increased allotment wide, the increase is not expected to increase sediment production to any great degree. For Poison Creek, East Fork of the Jarbidge, and Jarbidge River portions of the watershed, the Grazing Management Guidelines for herbaceous vegetation in the uplands are expected to maintain adequate amounts of vegetative and litter for watershed protection.

7.4.2.1 Dave Island Pasture.

In the past livestock grazed on BLM lands into October. A new grazing management guideline has been adopted to limit grazing on Dave Island Pasture to June 15 through August 15. Limiting grazing to this time period will prevent livestock from impacting bull trout while spawning or their redds. Grazing management guidelines for Dave Creek riparian zone: no more than 10% bank alteration and 4 inch residual median herbaceous stubble are expected to maintain the current proper functioning condition in Dave Creek. Monitoring will also be established in Morgan Draw to ensure that livestock grazing in the key area will be kept to prescribed levels (40% use).

Livestock trail down a steep slope, cross Dave Creek and trail up Morgan Draw to graze the Dave Island Pasture. The trailing impact is additive to the impacts associated with normal grazing. The soils in this area are rated moderate for water erosion hazard (NRCS 1997). Vegetation along the trailing corridor has decreased and the soil is subject to rill erosion (photos). Trailing of cattle to Dave Island Pasture will hinder recovery the lower portion of Morgan Draw resulting in sediment movement into Dave Creek. The reach of Dave Creek below Morgan Draw has not been surveyed/evaluated as spawning habitat. Water temperatures are near the threshold of bull trout tolerance.

7.4.3 Consistency with INFISH and the Jarbidge RMP Biological Opinion

INFISH was originally implemented by BLM via Instruction Memorandum No. OR-96-010, on October 21, 1995, and was called the "Interim Bull Trout Habitat Conservation Strategy". BLM field units were directed to apply the strategy to all new projects and activities within watersheds that contain current bull trout habitat. All new projects and activities were to incorporate the strategy, but only so far as compliant with land use plans and NEPA requirements. This directive expired on September 30, 1997. On October 15, 1998, BLM conveyed a biological assessment of continued implementation of the Jarbidge Resource Area (RA) Resource Management Plan (RMP). In February, 2001 the US Fish and Wildlife Service issued a Biological Opinion titled: "EFFECTS TO BULL TROUT FROM CONTINUED IMPLEMENTATION OF THE BUREAU OF LAND MANAGEMENT JARBIDGE RESOURCE AREA RESOURCE MANAGEMENT PLAN, AS AMENDED BY THE INTERIM STRATEGY FOR MANAGING FISH-PRODUCING WATERSHEDS IN EASTERN OREGON AND WASHINGTON, IDAHO, WESTERN MONTANA, AND PORTIONS OF NEVADA (INFISH)". This Biological Opinion addresses the Jarbidge RA RMP, as modified by INFISH and therefore makes continued implementation of the INFISH strategy binding upon the agency. Any modification of the INFISH strategy to management of the Jarbidge basin would require re-initiation of Section 7 consultation on the Jarbidge RA RMP.

The Biological Opinion contains Terms and Conditions, including the following requirement with respect to INFISH:

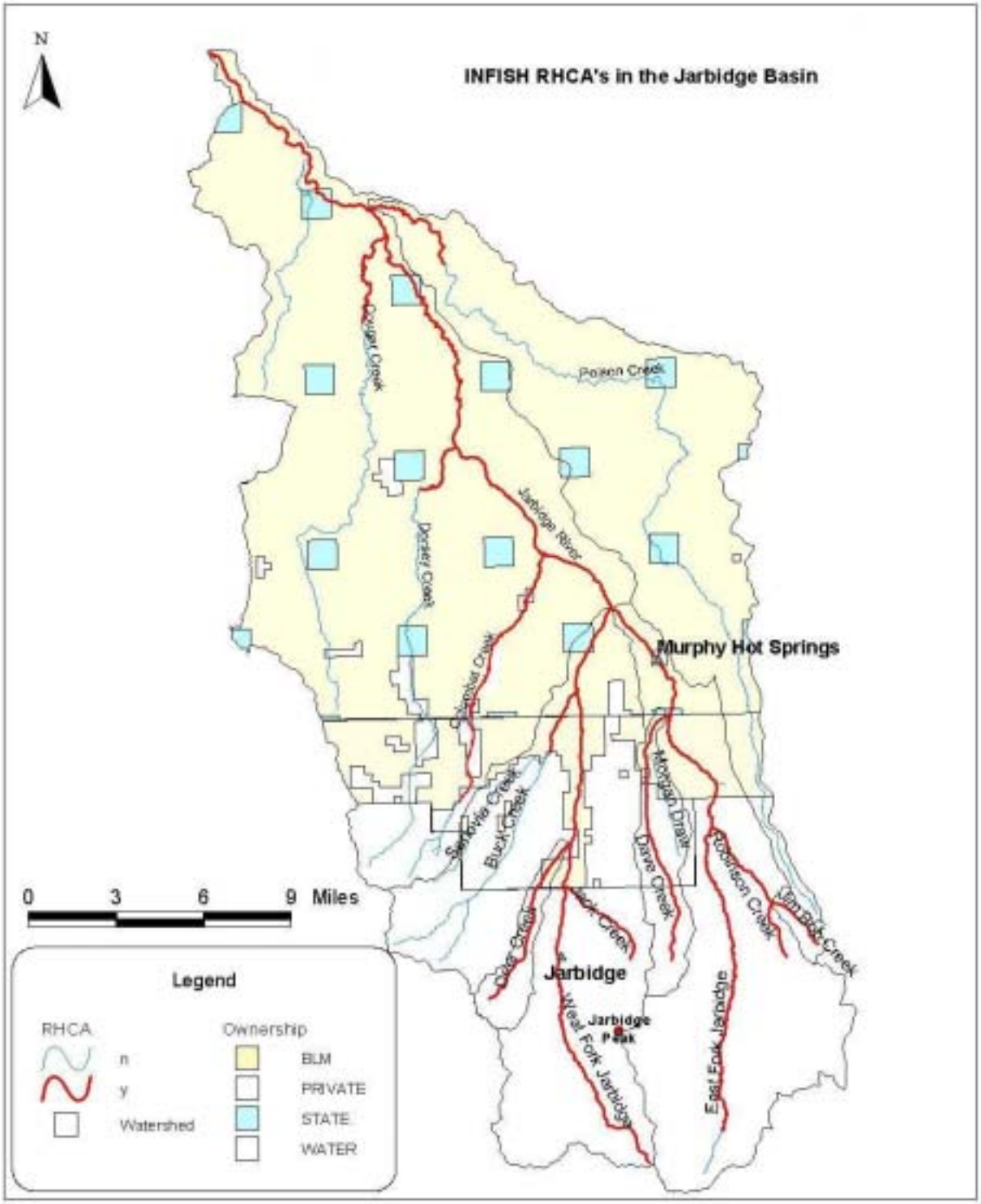
> "Review, modify, and implement annual operating instructions or term grazing permits for those allotments/leases which encompass streams known or expected to contain bull trout addressed in this Biological Opinion to meet appropriate INFISH objectives."

Thus, INFISH is a critical management component of bull trout conservation in the Jarbidge Basin, and must be implemented in grazing permits.

7.4.3.1 Riparian Management Objectives (RMOs)
INFISH established "riparian management objectives "(RMOs) for aquatic systems which currently contain bull trout or which affect downstream bull trout habitat. The RMO's include: pool frequency, water temperature, large woody debris, streambank stability, lower bank angle, and channel width/depth ratio,

7.4.3.2 RHCA's
For all perennial streams in the Jarbidge Basin, the RHCA (Riparian Habitat Conservation Area) consists of the stream and adjacent 100-year floodplain. For all intermittent streams in this same area, the RHCA includes the channel and the adjacent riparian area to the outer limits of riparian vegetation or 100 feet, whichever is greater. RHCAs in the Analysis Area are shown in Figure 7.4.1.

Figure 7.4.1 INFISH RHCA's in the Jarbidge Basin.



7.4.3.3 Standards and Guidelines

The Strategy also contains "Standards and Guidelines" (S&Gs) that are to be implemented in Riparian Habitat Conservation Areas (RHCAs) to meet the RMOs for conserving bull trout. Of relevance to livestock grazing, are Standards and Guidelines: GM-1 and GM-3.

> GM-1: "Modify grazing practices (e.g. accessibility of riparian areas to livestock, length of grazing season, stocking levels, timing of grazing, etc.) that retard or prevent attainment of Riparian Management Objectives or are likely to adversely affect bull trout. Suspend grazing if adjusting practices is not effective in meeting Riparian Management Objectives."
>
> GM-3: "Limit livestock trailing, bedding, watering, salting, loading, and other handling efforts to those areas and times that would not retard or prevent attainment of Riparian Management Objectives or adversely affect bull trout."

For livestock grazing, Standard GM1 requires that BLM modify grazing practices that "retard" or prevent attainment of Riparian Management Objectives (RMOs), or that would adversely affect bull trout. Grazing practices that are not effective in meeting these requirements must be suspended. RMOs most affected by livestock grazing are: streambank stability and Lower Bank Angle (undercut banks). INFISH defines "retard attainment of RMOs" as: "..to slow the rate of recovery below the near natural rate of recovery if not additional human caused disturbance was placed on the stream". With respect to the term "retard" INFISH states: "this obviously will require professional judgement and should be based on watershed analysis of local conditions**."**

7.4.3.4 Watershed Analysis

INFISH standards are to be implemented, "...until such time more site specific management objectives and standards and guidelines can be developed." "The development of more site specific objectives and standards and guidelines using watershed analysis techniques described within are strongly encouraged." Also: "Field Managers are encouraged to establish site-specific RMOs through watershed analysis or site specific analysis."
Watershed Analysis would normally be implemented: "...where the interim RMOs and the interim RHCA widths do not adequately reflect specific watershed capabilities." and to focus on "specific issues and management needs." This can include restoration and monitoring needs.

The scope and extent of a Watershed Analysis would generally be driven by the issues at hand, but the Field Manager has the final responsibility to determine how much time and effort would be expended on the analysis.

7.4.4 ESA Culmulative Effects

7.4.4.1 Grazing

In the Jarbidge River watershed, the Humboldt-Toyiabi National Forest allotments and some private lands are located in the upper portion of the East Fork Jarbidge and Dave Creek watersheds. A boundary fence separates Forest Service land from private land on Dave Creek. Sediment and nutrients from livestock grazing on these areas are transported downstream. Because these allotments are grazed after the peak water flow, the sediment produced is likely to

be retained or accumulate in the system from summer and into fall during lower water flows. The retention or accumulation of fines increases substrate embeddedness and at some level may impair oxygen exchange for eggs in redds. These affects are additive to the on site impacts that occur from grazing. Similarly lack of stream shading on private land may allow water temperatures to warm to levels not suitable for bull trout rearing, before the water reaches BLM administered lands.

7.4.5 Interrelated and Interdependent effects of federal actions

7.4.5.1 Grazing on other Lands

In addition to grazing on BLM administered lands, livestock also graze on State and Private land. Private land straddles the center portion of Dave Creek for about 3.75 miles, downstream of the Humboldt-Toyiabi National Forest boundary and above BLM lands on Wilkins Island. Presently, when livestock on private land they have access to BLM lands. The Idaho Department of Lands authorizes grazing on state owned lands in Idaho within the Jarbidge River Watershed.

7.4.5.2 Trailing

Livestock trail across the East Fork of the Jarbidge and up an un-named draw to reach Dave Island Pasture (up Morgan Draw) of the Poison Butte Allotment and Wilkins Island. Most of these same livestock trail across BLM land to reach allotments on Forest Service land or private land. Trailing in the un-named and Morgan Draws has lead to some site instability beyond normal grazing within trailing corridor in both draws. Trailing tends to reduce the amount of vegetative cover, result in soil compaction and terracing on hill sides. Reduced vegetative cover and compacted soils increase the run-off and erosion.

8.0 MONITORING AND MITIGATION

8.1 SLICKSPOT PEPPERGRASS

Surveys will be conducted on previously un-surveyed areas in pastures with suitable habitat but no known occupied habitat (approximately 17,500 acres). BLM's goal will be to acquire funding for two temporary staff or contract-out to survey 14,000 acres each spring in order to complete surveys on the 17,500 un-surveyed acres within 5 years. In years where funding is not acquired, the JRA botanist will survey a minimum of 2,000 acres. Seasonal use restrictions (slickspot peppergrass grazing management) would immediately be implemented upon finding *L. papilliferum* in a previously unoccupied pasture and consultation would be re-initiated with FWS. The mitigating measures would be similar to those proposed in Inside Desert, Poison Butte and Juniper Butte Allotments and specific to the pasture where *L. papilliferum* was found.

Impacts to slickspot peppergrass will be monitored using the Habitat Integrity Index (Mancuso and Mosely 1998) or an agreed upon modification thereof. A minimum of one monitoring transect will be established in each pasture with known occupied slickspots before the beginning of the first grazing season after the presence of *L. papilliferum* has been documented. Transects will be located by an interdisciplinary team at key sites in occupied habitat that are readily accessible to livestock. Data will be collected yearly at each transect and will be used to determine habitat suitability for long-term viability of *L. papilliferum*.

8.2 BULL TROUT

8.2.1 Monitoring

JFO staff will continue to monitor range uplands for those pastures that contain bull trout focal habitat. Pastures that contain or are immediately adjacent to nodal or adjunct habitat will be monitored with less intensity. BLM staff will do periodic checks (use supervision) through out the year to ensure livestock are moved in accordance with the respective grazing plans.

BLM will establish monitoring points in the bottoms of draws, per the IIT Implementation Monitoring protocol, that contain water sources or otherwise may be problems. BLM will monitor these locations in a timely manner following grazing. The following general locations have tentatively been identified for the Poison Butte Allotment to monitor the effects of increased use:

Morgan Draw (T47N, R58E, Section 13 NE)
Unnamed Draw (T47N, R59E, Section 18 NE)
Dave Creek (T47N, R58E, Section 12 NW
Unnamed Draw (T47N, R59E, Section 05 SE)

The above locations were previously identified for monitoring in the Poison Butte Allotment in the Ongoing Activities B.A. submitted in late March.

BLM will establish monitoring along the trailing route to determine if the grazing management guidelines result in reduced trailing impacts.

8.2.2 Mitigation

A. Mitigation for the proposed aquatic habitat will include:

(1) Work will be done in late June to early August when water temperatures are warm and there is little likelihood that bull trout would be present.
(2) Chain saws will be filled with gasoline or oil at least 15 feet away from the stream channel.
(3) No heavy equipment would be used to place logs.
(4) Trees immediately on the streambank would not be cut. To help anchor trees the butt of the tree would not be cut through
(5) The planting of cottonwood would be done in the early summer after the peak of run-off using hand tools.

B. JFO staff will monitor livestock use, check known and potential livestock access points into bull trout habitat. Specific areas to check include mouth of Poison Creek, mouth of Cougar Point Creek, and a trail off South Sheep Pasture. If riparian resource guidelines are not being met, then BLM will work with the permit holder(s) to ensure the problem is solved.

8.2.3 Inventory

BLM will collect aquatic baseline habitat data (pool frequency, pool size, pool quality, large woody debris, overhanging vegetation, under cut banks, stream bank stability, etc.) in the following streams: East Fork of the Jarbidge (above and below confluence of Dave Creek and one location downstream of Murphy Hot Springs) and Jarbidge mainstem (just below the Jarbidge Forks, above and below the Poison Creek/Jarbidge River confluence and just upstream of the Jarbidge confluence with the Bruneau River). These are the same locations for the Poison Butte Allotment that were identified in the Ongoing Activities B.A. submitted in late March. Data will complete baseline data collection by December 31, 2006. BLM will send summaries of the data to the FWS, Reno Field Office.

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